# Minnesota Medicine

Journal of the Minnesota State Medical Association

Vol. II AUGUST, 1919 No. 8

## CONTENTS

ORIGINAL ARTICLES—



*(Continued on Advertising Page III.)*

ENTERED AT THE POST OFFICE IN SAINT PAUL AS SECOND CLASS MAIL MATTER.
ACCEPTED FOR MAILING AT THE SPECIAL RATE OF POSTAGE PROVIDED FOR IN SECTION 1103, ACT OF OCTOBER 3, 1917, AUTHORIZED JULY 13, 1918.

PRICE LIST OF PLAIN AND FORMALIZED

# *PYOKTANIN CATGUT*

Manufactured by

**The Laboratory of the Ramsey County Medical Society**

LOWRY BUILDING

**ST. PAUL, MINN.**

---

| | Per Dozen Strands |
|---|---|
| Size OO—14 inches | $0.65 |
| Size O—14 inches | .75 |
| Size 1—14 inches | .90 |
| Size 2—14 inches | 1.00 |
| Size 3—14 inches | 1.15 |
| Size 4—14 inches | 1.20 |
| Size OO—28 inches | $0.90 |
| Size O—28 inches | 1.05 |
| Size 1—28 inches | 1.20 |
| Size 2—28 inches | 1.35 |
| Size 3—28 inches | 1.50 |
| Size 4—28 inches | 1.65 |

**Special Discount to Hospitals and to the Trade.** **Cash must accompany the Order.**

---

ADDRESS:

**Laboratory Ramsey County Medical Society**

**Lowry Building, Saint Paul, Minnesota**

***For Sale by all Druggists***

# Minnesota Medicine

Journal of the Minnesota State Medical Association

Vol. II AUGUST, 1919 No. 8


## ORIGINAL ARTICLES

### AN EPIDEMIOLOGICAL INVESTIGATION OF THE INFLUENZA EPIDEMIC AT CAMP DODGE, IA., 1918


First Lieut. M. Seham, M. C.
Assistant Camp Epidemiologist, Camp Dodge, Iowa
*Minneapolis, Minn.*


**Extra Cantonment Sources of Influenza at Camp Dodge**

There is a remarkable similarity in the epidemiology of the Epidemics of Influenza of both 1889-90 and 1918. They are characterized by (1) the traditional boat bringing the disease to this country; (2) the very sudden, almost simultaneous, origin of the epidemic throughout the entire country; (3) the equally sudden departure of the disease after a certain proportion of the population has been attacked; (4) the uniformity of symptoms, and (5) death resulting in almost every instance from pneumonia, complicating influenza.

During the epidemic of 1889-90, because of the fact that the epidemic prevailed all over the country at almost the same time, theories were advanced that influenza originated from within each community at about the same time. The organism which caused influenza being the normal habitant of the nose and throat, each person exposed himself, so to speak. Even at the present time, many men will agree to this explanation of the almost simultaneous origin of the disease in the various sections of the country.

CHART I. This chart shows conclusively that the epidemic of influenza at Camp Dodge during the latter part of September and the first three weeks of October, 1918, was brought to the Camp along the routes of travel from other places where influenza was prevalent, by men who had contracted the disease either in a mild and unrecognized form and were not admitted to the base hospital, or by men who gave definite histories of having contracted influenza before their arrival at this Camp and became patients in the hospital immediately thereafter.

The above information has been obtained by personal investigation of all troops arriving here from, or coming through cities in which influenza obtained.

From the first to the tenth of September, about 5,000 recruits were received from Iowa through the regular draft. There was no influenza in this state at this time as far as can be ascertained.

On the 14th of September, 120 enlisted men arrived from Fort Riley, Kansas. The medical officers who accompanied these men stated that there were a few cases of influenza in this camp when these men left. None of these men became sick until after the epidemic at Camp Dodge had reached its height. This group could not have been a source of infection except that they may have been carriers through having had mild, unrecognized cases.

On September 12, an enlisted man, assigned to Company 64, arrived from Chicago. He complained of signs not unlike those of influenza immediately after arrival but he was not admitted to the base hospital for influenza until September 28. He gave a history of having a cough and feeling weak since his arrival. It is possible that he had a relapse —his first attack being mild and unrecognized. Another man arrived from Chicago on the same day. No history was obtained from him, but the following information was taken from his chart; he had been feeling badly ever

since his arrival at the Camp; he lived only a few days after admittance to the hospital, dying of pneumonia, following influenza, on September 29. This was probably another case of relapse or reinfection.

On September 14, ten enlisted men came from Fort Logan, Colorado, with the Second Infantry, but none of these became sick until at least a week after their arrival.

On September 14, one hundred enlisted men and two officers were received from Fort Oglethorpe, Georgia, attached to base hopsital 144, temporarily stationed at this Camp. Of this number, twenty-three contracted influenza but none became sick earlier than October 3, which fact would eliminate this group as a probable primary source of infection throughout this Camp.

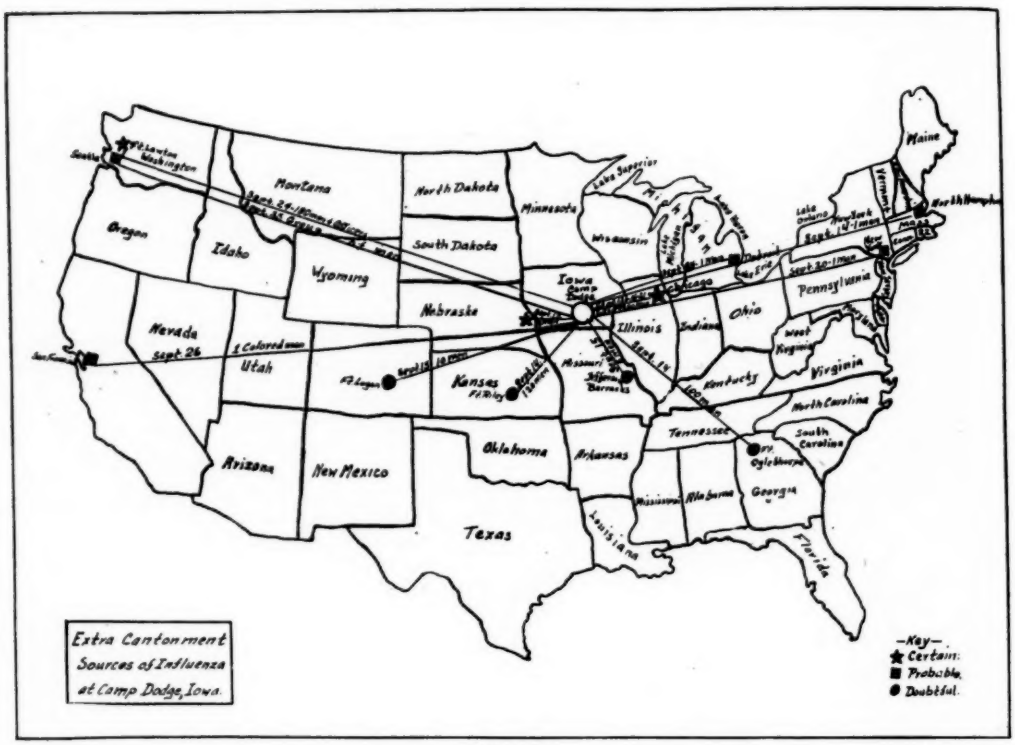


CHART 1

On September 15, men came from Jefferson Barracks, Missouri, none of whom contracted influenza.

On September 14, one man came from Northampton, Massachusetts, where influenza was raging at that time. He stated that he had had a headache, malaise, and a cough about three days before he arrived at the Camp but he was never admitted to the base hospital as a patient. He may have had influenza and acted as a carrier in Company 64 to which he was first assigned, which was one of the first organizations to become affected.

On September 16, twenty-seven men arrived from Chicago, and were assigned to the motor convoy. Two of this group became sick immediately after arriving here and were sent to the base hospital with a diagnosis of bronchitis. All of these men were assigned to duties which brought them in contact with men from various parts of the Camp.

On September 21, thirty drivers of ambulances, who had gone to Chicago during the past week with truck ambulances, came back from Chicago after having stayed over two days. Two of this group were taken sick on the train, and were admitted to the base

hospital on September 22. Ten of the entire thirty contracted the disease. They were probably the greatest and earliest source of spread in this Camp.

On September 24, several officers and one hundred and eighty men came from Fort Lawton, Washington, with the Fourteenth infantry. Some of these men admitted that they were at Seattle for a few days at the time the epidemic was existent. Three of this group became sick on the train, and were admitted to the base hospital after arrival at this Camp. These men must have been a source of infection—first, to their companions; and—second, to all others in the Camp with whom they came in contact.

On September 25, another group of the Fourteenth Infantry came from Washington state through the cities of Seattle and Tacoma, but none of this group became sick with influenza as far as could be ascertained until about a week after they arrived at Camp Dodge.

On September 20, an enlisted man arrived from New York, assigned to Company 12. He had been sick a few days before coming to this Camp. The symptoms which he described were not unlike those of influenza. He may have been a carrier—influenza existing at that time in New York.

On September 24, a man came to this Camp from Detroit, Michigan, assigned to Company 9. He also had been sick for a couple of days with just a cough but no other signs of influenza. He was never admitted to the base hospital. He may have been a carrier. Influenza existed in Detroit at that time.

Another enlisted man (colored) arrived from San Francisco at this Camp on September 26, assigned to Company 76. No history of any sickness could be obtained from him when he first arrived at this Camp, but on September 28, he was admitted to the base hospital for influenza. Influenza existed in San Francisco at that time, and he may have been a carrier in his organization, as Company 75 was one of the first companies to be affected.

Another soldier in Company 32 had been on a furlough in Omaha, Nebraska, and returned to the Camp on September 20th. His wife, who was with him at the time, had been sick in Omaha with signs of influenza. On September 25, he was admitted to the base hospital with a diagnosis of influenza, developed pneumonia and died on the 29th.

There is no question in the mind of the writer but that the epidemic originated from without, through the usual routes of travel, certainly from the city of Chicago, and the State of Washington, and probably from Massachusetts, San Francisco, Omaha and Detroit.

*Earliest Cases of Influenza.*

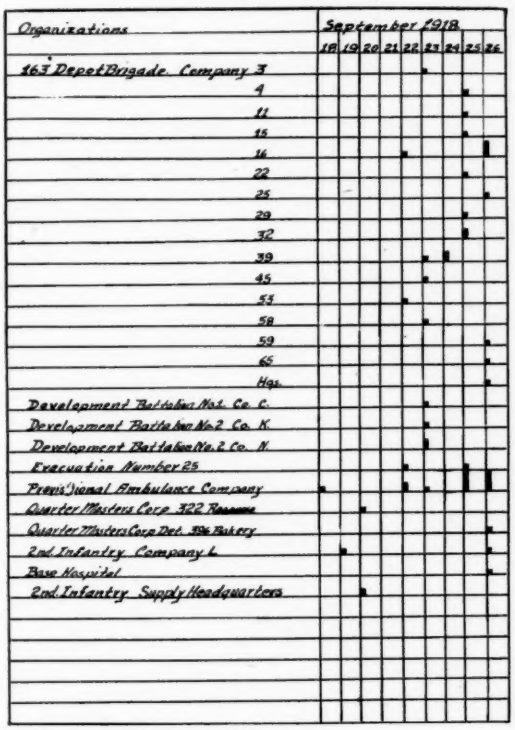


CHART II

By the 28th of September the disease was wide-spread throughout the entire Camp. It is unnecessary to cite any more instances of method of spread from one organization to another to prove that this disease is not air borne.

### Intra Regimental Spread

CHART II. Shows the early cases of influenza and the spread throughout the various organizations.

The first known case appeared in the Provisional Ambulance on the 18th of September.

A few days later the disease appeared in this organization. The first case in Company 16 was exposed to a driver in the Provisional Ambulance, and in two days four of Company 16 were admitted to the base hospital.

This Chart shows that before the disease was reported in epidemic form to Washington, twenty-six companies had already been affected.

## The Origin of Influenza and the Method of Spread in the Base Hospital at Camp Dodge

The data obtained and recorded in the following chapter was collected from personal questioning of the patients themselves, from the day books of the wards of the hospital and from the daily admittance sheets in the receiving office. Any information received from ward surgeons and nurses, unless confirmed by personal investigations, has not been recorded.

The epidemic of influenza in the base hospital could be definitely traced in almost every instance to the very first cases in each ward and then through transfers of patients from one ward to another.

The first case as far as could be ascertained of influenza, was admitted to the base hospital on September 18, after having been sick for two days. This was diagnosed bronchitis, and sent into ward 23, which at that time received miscellaneous medical cases.

At this time regimental surgeons and receiving officers were not especially on the lookout for influenza cases; and some of the earliest cases from September 18 to about the 23rd and 24th were diagnosed bronchitis, tonsillitis, observation pneumonia, reaction from typhoid, etc., which upon personal investigation seemed to the writer typical cases of influenza. Also there was an attempt made to confirm suspicious clinical signs of influenza by bacteriologic diagnosis but this was given up as impracticable. This, also, was the cause of some delay in the diagnosis of influenza.

In order to understand the above Chart II, it will be necessary to mention the arrangement and distribution of disease by wards in the base hospital.

Wards 1 and 3 were observation wards; ward 5 received miscellaneous medical cases, bronchitis, typhoid reaction, etc.; wards 7 and 9 were for observation pneumonia; ward 11, empyema; wards 13 and 15, pneumonia; wards 17 and 19, stomach; wards 21 and 23 miscellaneous medical; wards 30 and 32 miscellaneous medical; wards 2 to 18 inclusive, received surgical; wards 45 and 46, mixed contagious; wards 33 and 34, tuberculosis; wards 35 and 36, orthopedics; wards 37 and 38, syphilitic; Ward 39, nose and throat; ward 41, eye; wards 40, 42 and 44, genito-urinary; ward 47 psychiatric; wards 22 to 28 inclusive, measles.

There were 1,397 patients in the hospital on about the 27th of September when the first cases of influenza were telegraphed to Washington. 310 cases of influenza developed amongst these cases—the percentage of cross infection being 22 per cent. The highest percentage was in ward 28, 97 per cent developing influenza. Wards 11,15, 18, and 38 did not develop any cases.

Analysis of the above chart shows the following:

Ward No. 1.—This ward received observation contagious cases before the epidemic. Four of the six cases of influenza in this ward were sick with influenza upon admittance, the other two cases were cross infections.

Ward No. 2.—The first case in this ward was admitted on October 1. Private E., Co. 17. He was admitted a few days after the epidemic was recognized; he was admitted for a surgical disease with influenza, and was transferred to ward 20 on the next day, which was an influenza ward. Two other cases developed in this ward on the third and fourth of October, respectively. All the surgical cases were sent to ward 16, and this ward was opened for influenza cases on October 6.

Ward No. 3.—The high incidence of influenza in this ward was probably because a number of cases admitted early were diagnosed as bronchitis which were actually influenza. The first two cases were admitted on Spetember 22, diagnosed bronchitis. Private W. and Private H., of the Provisional Ambulance Company.

Ward No. 4.—The first case in this ward was admitted September 28: Private R., Co. 49; he had a surgical condition plus in-

fluenza; he was transferred to ward 1, October 1. On September 30, another patient who had been in the ward for some time developed influenza and was transferred to ward 18.

Ward No. 5.—This ward had a very high percentage of cross infections. A number of cases were admitted early for bronchitis but were influenza cases. The first two cases were, first—Private S., Co. I, Second Infantry, admitted September 24, transferred to ward 29, September 25 and to ward 23 on September 26; second, Private N., Provisional Ambulance Company, admitted September 25, and went to duty September 28.

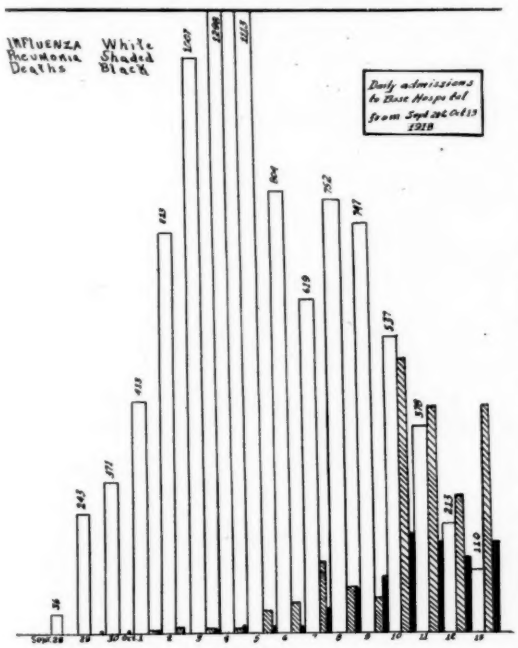


CHART III

Ward No. 6.—The first case, Private D., Co. D., Development Battalion came into this ward on September 10; developed influenza on September 28, transferred to ward 35. This man was an ambulatory patient, and admitted having been to the Red Cross house several times before contracting the disease; no definite history of contact could be obtained.

Ward No. 7.—The first case in this ward was Private A., Provisional Ambulance Company, transferred from ward 23 as an observation pneumonia and influenza on September 27. Private F., Provisional Ambulance Company, was transferred from ward 23 on September 28; and Private P., Co. 42, was admitted from ward 1 on September 23, both as observation pneumonia cases.

Ward No. 8.—This ward showed a very high incidence of influenza patients. The first case was Private F., C. 76, admitted to the ward on September 28, diagnosed hemorrhoids with influenza. He was transferred to ward 1 on account of influenza, October 1.

Ward No. 9.—Private T., Co. 29, was received from ward 23 on September 27 as a suspected pneumonia. He had influenza. Five other cases admitted from other wards for pneumonia developed influenza, and all were transferred to ward 7 on September 29. This ward was opened for pneumonia, following influenza on September 30.

Ward No. 10.—There was only one case in this ward: Private L., who was admitted on September 28 because of a bullet wound in his hand; he was also a diphtheria carrier and had influenza; he was transferred the same day, and another case developed in this ward. The same surgical cases were kept here throughout the epidemic.

Ward No. 12.—The first case was Private P., who had been in this ward a long time previous to the origin of the epidemic. He had been out to the Red Cross house several times, but no history of definite contact could be obtained from him. Six cases developed within two days after he showed first signs. This ward was continued as a surgical throughout the entire epidemic.

Ward No. 13.—There was no influenza in this ward until after patients were transferred from ward 7 on October 4. On October 6, nine developed influenza, and these were transferred to an influenza ward—no more cases developed from this group.

Ward No. 14.—Private S., Co. D., Development Battalion No. 1, was admitted as a genito-urinary patient with influenza on October 7; he was transferred on the same day to ward 2, which was an influenza ward. All the patients were transferred to ward 42 on October 8.

Wards Nos. 17 and 19.—The first case in ward 17 was Private A., Co. B., Development Battalion No. 1, he was admitted as gastritis on September 21, and was transferred to

ward 29 on September 25—the first ward to be opened up as an influenza ward—he ran a typical course of influenza. Private A., Supply Company, Fourteenth Infantry, was admitted on September 26 to ward 19, also for stomach disease; he was transferred to ward 29 on September 27 for influenza.

Ward No. 21.—Private L., C. H., Second Infantry, was admitted September 25 for a heart condition and bronchitis, was transferred to ward 30 on the same day; his history and symptoms were typically those of influenza. Private C., Provisional Ambulance, was admitted September 25 for influenza; he was transferred to ward 5 on the same day. These were the first two cases in this ward.

Ward No. 23.—Private K., Provisional Ambulance Company, was the very first case discovered in the hospital, admitted September 18. He went to duty September 24. This ward had a very high percentage of cross infections. There were thirty-nine cases in the ward and of these, twenty-eight developed influenza. This ward was made an influenza ward on October 2, and was the greatest source of cross infection in the whole hospital.

Ward No. 24.—The first case in ward 24: Private C., Co. 57, admitted to the ward on October 4, transferred from ward 45 as an observation measles; he never developed measles but he had a typical course of influenza, pneumonia and death. On October 5, a measles patient who had been up and around doing kitchen police work, contracted influenza. Within the next two days after that, eight developed influenza.

Ward No. 25.—The first case was Private C., Evacuation Hospital No. 25, who was admitted September 24 as mumps with influenza. One other case developed before the ward was opened as in influenza ward on September 29.

Ward No. 28.—The first case was Private H., Co. 39, who was transferred from ward 22 on September 25. He showed signs of influenza on September 29. On the next day, one ward surgeon, three nurses and fourteen patients developed influenza. Of thirty-seven cases, thirty-six developed the disease. This ward had the highest percentage of cross-infections. The cases in this ward were measles patients with streptococcic throats.

Wards Nos. 33 and 34.—These wards received their sources of infection from ward 23 through Private D., Co. A., Development Battalion No. 1, September 30, and Private P., Co. 61, September 30, Lieut. D., ward surgeon, contracted the disease two days after the admittance of Private D.

Ward No. 36.—This ward received its case of influenza from wards 6, 8 and 10 on the 6th of October. These wards sent fifty-five surgical cases, six of which were also cases of influenza. On October 8, a number of influenza cases developed amongst the original cases in ward 36, and these were transferred on the same day. No new cases developed after October 11.

Wards Nos. 37, 38, 40, 42, and 44 can be considered together. They were all genito-urinary and syphilis wards. One case was admitted September 27 in ward 37 for a genito-urinary condition and influenza, and was transferred to ward 38 on September 28. No cases developed in ward 38. All were sent to ward 42 on September 27. Ward 42 received all of the clean genito-urinary cases; of the thirty-eight which were originally in the ward, none developed influenza. On October 11, ward 40 sent to ward 42 all of its cases and some had already had the influenza. On the next day, seven were diagnosed as such and transferred to another ward. Two ward surgeons contracted the disease also. Wards 39, 41 and 43 were devoted to eye, ear, nose and throat conditions. The first case in ward 41 was admitted October 3. Five other cases developed within the next three days.

Ward No. 39.—In ward 39, cases were received from ward 43 on October 1; two cases were admitted on September 20 and 22, respectively, which had influenza along with tonsillitis.

Wards Nos. 45 and 46.—These wards were mixed contagious wards. There were no cases of influenza here before October 3, on which date Private A, was admitted as a tonsillitis and diphtheria carrier; he also had influenza at the same time; developed pneumonia, and died October 9. He exposed all the others in his ward, and all of them developed the disease.

In the mumps ward, eight of the fourteen cases were affected. In the scarlet fever ward, where there were three cases, an observation scarlet fever patient, which was really an influenza, was admitted but none of the scarlet fever patients developed the disease. There were four cases of small pox, all of whom had the influenza. These patients were very rigidly isolated from all others, and it is not known how these could have been exposed possibly through numerous flies which were admitted through the corridors where many influenza cases were treated. There were thirty original cases in these wards, and eighty-four were admitted during the course of the epidemic—of these seventeen developed influenza.

Ward No. 47.—There were twenty-three mental cases in this ward about September 27. Only four developed the influenza. The first case was probably Private B., who came to this ward on September 28 with insanity and influenza. Three others developed the disease.

### Analysis of Eight Hundred and Thirty-four Cases of Influenza

Eight hundred and thirty-four patients, two hundred and ten of which had pneumonia, were personally investigated epidemiologically.

1. Age.—Sixty-one per cent occured between the ages of twenty and twenty-five; 32 per cent between twenty-five and thirty; 5.2 per cent between thirty and thirty-five; 1 per cent between thirty-five and forty. Although the great majority of cases were between the ages of twenty and thirty, no definite conclusions as to ages can be drawn because the ratio of ages in the total strength of the command is not known.

2. Race.—The total average strength of the command was 33,070. 29.3 per cent of negroes contracted the disease, and 30.4 per cent of white men contracted it. There were 550 Jews in the camp, and of these, 20 per cent contracted the disease. 16 per cent developed pneumonia, and 2.07 per cent died.

3. Masks.—Fifty-seven of the entire number questioned wore masks, but with the exception of the medical officers and nurses, none were worn adequately.

4. Contact.—Contact undoubtedly plays a great part in the spread of the epidemic. In 96 per cent of the cases, a definite history of contact could be obtained from the patients. The following are a few striking examples of first cases in different organizations and the spread throughout these organizations by direct contact:

First—Private K., Provisional Ambulance Company, was in Chicago from the 13th to the 16th of September. Although he gave no definite history of exposure, he claims to have become sick a day or two before he left Chicago with a cough, sore muscles, especially, those of his legs and back, and fever; he felt badly on the train; and a day after he came back to the camp, was sent to the base hospital with a diagnosis of bronchitis. He was admitted to ward 23 on the 18th of September; he had a pulse ranging from 80 to 90; temperature of 102, and a few rales in his chest. This undoubtedly was a case of influenza for the history and clinical progress was exactly the same as those cases which were later on diagnosed influenza. He was probably one of the first cases, having been exposed in Chicago. It was readily seen how he could have exposed the rest of his company and others with whom he came in contact during the day he served as an ambulance driver,—these duties requiring him to go from one infirmary to another in order to get patients. Then again, he must have been a source of infection in the hospital: First, in ward 23 to which he was first sent and then to ward 5 to which he was transferred. He was discharged to duty on the 24th of September. In this way, the Provisional Ambulance was the first organization affected with influenza.

Second, The following was another illustration of contact infection in the Provisional Ambulance Company; thirty men were sent from this camp with ambulance trucks to Chicago. They arrived in Chicago on the 19th of September, and spent the 19th and 20th there. Although they gave no history of contact with any one sick with influenza, Private W., must have contracted the disease in Chicago where the epidemic was at that time raging because he became sick on the train with symptoms that were definitely those of influenza. On September 22, a day after having returned to the camp, he was admitted to the base hospital with a diagnosis

of influenza. Five others in the Provisional Ambulance Company who accompanied Private W., were admitted to the base hospital a few days later.

The duties of these men are such as to bring them into close and direct contact with a large number of sick men from other organizations in the various infirmaries.

Third, Private W., Evacuation Hospital No. 25, had been on duty in ward 5, where undoubtedly he had come in contact with some of the men who were diagnosed bronchitis, but who, most probably, had influenza; he was admitted to the base hospital September 22.

On September 24 and 25, three other cases from the same organization were admitted to the base hospital.

Fourth, Private C., Co. 16, had been in contact with Private W., the ambulance driver above mentioned; he was admitted to the base hospital on September 23 with a diagnosis of observation measles; he had a typical case of influenza. He went to duty September 27.

On the 23rd, 24th and 25th of September, nine cases were admitted to the base hospital for influenza. Many more instances of certain contact infection could be mentioned.

5. Previous Attack.—Only .4 of 1 per cent gave a history of having had previous attacks. One of these described symptoms which were exactly similar to the present attack which he claims to have had over a year ago, and the other four described symptoms which were milder though similar.

6. Chills.—Fifty-one per cent complained during the first day or two of having been chillly or having had definite chills.

7. Vomiting.—In 14 per cent of the cases vomiting was an early symptom.

| Ward | Disease | Original Cases | No. of Cases Dev. | % Infl. Dev. | Date Ward Infl. Des. | *First Cases |
|---|---|---|---|---|---|---|
| No. 1 | Observation | 27 | 6 | 22 | 9/30 | |
| No. 2 | Clean Surgery | 26 | 3 | 11 | 10/6 | |
| No. 3 | Bronchitis | 32 | 12 | 37 | 10/5 | |
| No. 4 | Pus Surgery | 32 | 2 | 6 | 10/6 | |
| No. 5 | Medical | 24 | 15 | 62 | 10/4 | |
| No. 6 | Surgery | 3 | Nurses 4 | 11 | 10/8 | |
| No. 7 | Observation | 20 | 4 | 20 | 10/3 | |
| No. 8 | Pus Surgery | 20 | 12 | 60 | 10/9 | |
| No 9 | Pneumonia | 16 | 6 | 38 | 9/29 | |
| No 1 | Clean Surgery | 27 | 1 | 4 | No Change | |
| No. 11 | Empyema | 20 | 0 | 0 | 9/28 | |
| No 12 | Surgery | 37 | 8 | 22 | Not flu W Down Cases | |
| No. 13 | Pneumonia | 35 | 9 | 26 | 10/11 | |
| No. 14 | G U. | 36 | 4 | 11 | 10/8 | |
| No. 15 | Con. Pneumonia | 35 | 0 | 0 | 10/10 | |
| No. 16 | Surgery | | | | 10/9 | |
| No. 17 | Stomach | 31 | 12 | 39 | 10/3 | |
| No. 18 | Surgery | 28 | 0 | 0 | 9/30 | |
| No. 19 | Stomach | | | | 10/2 | |
| No. 20 | Closed | | | | | |
| No. 21 | Heart Cases | 31 | | 25½ | 10/2 | |
| No. 22 | Measles | 20 | 12 | 60 | 10/14 | |
| No. 23 | Medical | 39 | 28 | 71.8 | | |
| No. 24 | Measles | 35 | 14 | 40 | | |
| No. 25 | Mumps | 31 | 2 | 6.4 | 9/29 | |
| No. 26 | Measles | Closed | | | 10/1 | |
| No. 27 | Mumps | Closed | | | | |
| No. 28 | Measles | 36 | 35 | 97 | 10/11 | |
| No. 29 | Closed | | | | 9/27 | |
| No. 30 | Gen. Med. | 33 | 2 | 6 | 9/29 | |
| No. 31 | Closed | | | | 9/27 | |
| No. 32 | Gen. Med. | Closed | | | | |
| No. 33 | T. B. | | | | | |
| No. 34 | T. B. | 113 | 23 | 6 | No Change | |
| No. 35 | Closed | | | | 9/27 | |
| No. 36 | Orthopedic | 134 | 31 | 23 | No Change | |
| No. 37 | Nose and Throat | 33 | 2 | 6 | 9/30 | |
| No. 38 | Syphilis | 54 | | | No Change | |
| No. 39 | Nose and Throat | 59 | 17 | 28 | 10/5 | |
| No. 40 | Syphilis | | | | | |
| No. 41 | Eye | 85 | 6 | 7 | No Change | |
| No. 42 | G. U. | 127 | 7 | 5 | No Change | |
| No. 43 | Nose and Throat | 32 | 6 | 19 | All on 10/39 10/1 | |
| No. 44 | G U. | | | | | |
| No. 45 | Contagious | 30 | 17 | 56⅔ | | |
| No. 46 | Contagious | | | | | |
| No. 47 | Psychiatric | 22 | 4 | 18 | | |

CHART IV

*Discussed in Detail on Page 287

8. Prophylaxis.—Four per cent used some prophylactic measures, such as gargling with Dobell's solution, hydrogen peroxide, glycothymolin or the spraying of the nose and throat with the oil solution.

9. Where Became Sick.—Eleven per cent became sick in the tent, and 89 per cent in the barracks. This is inaccurate because these cases were taken in wards where there were very few negroes.

10. Previous Illness.—Four per cent complained of some previous illness, such as bronchitis of a week or two duration, general fatigue, etc.

11. Cough.—Ninety-three per cent gave a history of having had a cough at one time or another throughout the disease. This was the most constant symptom, the first to appear and the last to disappear.

12. Onset.—Thirty per cent gave a history of a sudden onset—that is, within one day or less; and 70 per cent of gradual onset.

## Summary

The clinical analysis of these cases does not justify one in drawing any conclusions except that there were no predisposing causes in this disease. The men affected did not belong to any special group; they were physically fit; their resistance had not been lowered in any way by previous illness nor by overwork nor by inclement weather. The ones who escaped the disease were (1) those inherently immune, (2) isolated from contact, or (3) as in the case of the medical officers and nurses, protected mechanically by the mask.

## Analysis of Two Hundred and Ten Cases of Pneumonia Following Influenza

1. Length of Time After Admittance to the Hospital Before Pneumonia was Diagnosed.—One and 6 tenths per cent were diagnosed one day after admittance; 7.8 per cent, two days; 14 per cent, three days; 26 per cent, four days; 14 per cent, five days; 19 per cent, six days; and 17.6 per cent, a week or over. The vast majority of cases were diagnosed between the fourth and sixth days after admittance to the hospital.

2. Onset.—Thirty-seven per cent were sudden and 63 per cent gradual. This shows practically no difference from the onset in the uncomplicated cased of influenza.

3. Length of Time in Quarters Before Sent Hospital.—Fifty-seven per cent were sent to the hospital one day after the first symptoms; 16 per cent, two days; 10.6 per cent, three days; 4 per cent, four days; 4 per cent, five days; and 8.4 per cent, a week or over.

4. Previous Illness.—Twenty-four per cent complained of having had some previous illness before the onset of this disease; 80 per cent of these had had pneumonia before, and 20 per cent had had other forms of lung trouble—such as asthma, chrnoic bronchitis, and "weak lungs."

5. Age.—Sixty-two per cent were between twenty and twenty-five years; thirty-two per cent between twenty-five and thirty, and 6 per cent between thirty and thirty-five.

6. Contact and Contagiousness.*—Forty-three wards were studied in order to obtain information as to the contagiousness of pneumonia proper. The probability of the thermometer carrying infection from one patient to another could probably be discarded because unusual care was taken in the wards in the proper disinfection of thermometers, and a sufficient number were on hand during this epidemic.

The possibility of contagion through carriers such as convalescents, nurses, or orderlies was unlikely because of the wearing of the masks by every one in attendance upon patients.

Of the entire number of wards investigated, there were only four in which the cases were grouped, and in only one ward did these cases develop one after another. It could not be proved that pneumonia was spread by transmission from one ward to another.

There was practically no difference in the incidence of pneumonia between the upper and lower barracks—there being a little higher percentage in the upper barracks.

7. Tent or Barrack.—Seven per cent became sick in the tent, and 93 per cent in the barracks. This is not accurate, because the cases are not representative; 69 per cent in the upper barrack, and 31 per cent in the lower barrack.

8. Rural or Urban.—Sixty-six per cent were from the country, and 34 per cent were from

*This information was obtained from questionnaires sent to ward surgeons.

the city; 23 per cent were from the south, and 77 per cent were from the north.

9. Occupation.—Sixty-four per cent were farmers; 25 per cent were of sedentary occupations, and 11 per cent miscellaneous.

10. Length of Service.—Forty-five per cent a month or less; 19 per cent. two months, and the remaining 36 per cent three months or over.

### Summary

Previous illness may have some bearing on the association of pneumonia, following influenza. Of those who contracted pneumonia 24 per cent had had some definite respiratory disease as compared to 5 per cent amongst the cases of uncomplicated influenza. This fact may have had some bearing on the cause of the locus minoris resistantiae.

### Medical Officers*

There were one hundred and seventy-three medical officers at the base hospital during the epidemic. One hundred and thirty-five were received during the first week of October. Of these, seventeen, or 5.6 per cent contracted influenza. There was no pneumonia and no deaths.

Age.—Three of the medical officers were over forty. The youngest was twenty-six years.

Contact.—All but three gave definite histories of contact. Captain D, was exposed to influenza for a week before the epidemic was recognized, and was admitted to the base hospital on the 29th of September. He did not wear any masks during that time. The technic of the other two could be questioned.

### Conclusions

The influence of such predisposing factors as age, physical condition, exposure to severe weather, previous illness, etc., is the same amongst medical officers as line officers; therefore, why is it that only 5.6 per cent of medical officers contracted the disease as compared to 8.4 per cent of line officers; that no pneumonia occured amongst the medical officers as compared with 7 per cent amongst the line officers, and that no deaths occured amongst the former, and 7 per cent amongst the latter?

By elimination of all other possible reasons, it would seem that the mechanical protection afforded by masks and the technic in the care of contagious diseases must be the only reason for the difference.

*Data obtained from questionnaires sent to Medical Officers.

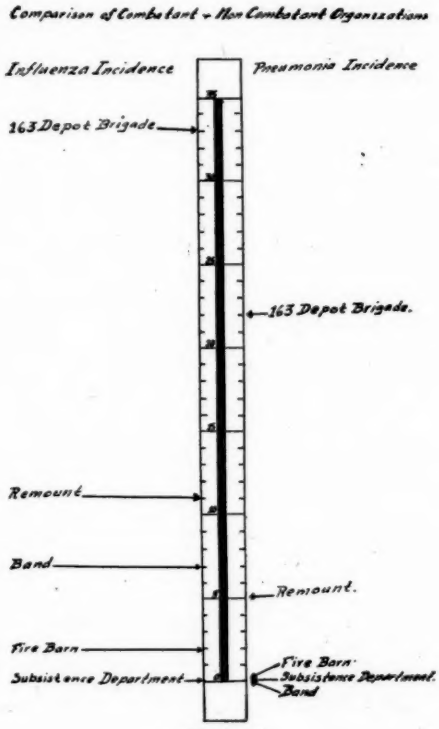


CHART V

### Line Organization Officers.*

There were 1,031 non-medical officers in Camp Dodge about the first of October. Of these, eighty-six contracted influenza, or 8.4 per cent; six or 7 per cent developed pneumonia and six, or 7 per cent died.

Thirty-two officers were personally questioned.

1. Previous Attack.—Three gave histories of having had previous attacks which they considered "the grippe," but the symptoms of which were not typically like the present attack.

2. Overwork.—Seven complained of having been tired previous to their admittance to the hospital but had continued to do their work.

3. Contact.—Twenty-four, or 75 per cent gave definite histories of having come in contact with some infected person, e. g., soldiers in their company, fellow officers in

*Data obtained from questionnaires sent to Line Organization Officers.

the mess halls, etc. A large number of these officers administered to the needs of those sick in their company before they were sent to the hospital. None of these officers wore masks nor tried any other means of prophylaxis.

The following histories show examples of individual contact: An enlisted man working in the adjutant's office contracted influenza; Major M., of the same department contracted the disease four days later. There were no other cases in this department.

In the quartermaster's department, Lieut. G., contracted the disease and six days later, his commanding officer who worked with him became sick. Many other instances of definite contact infection could be mentioned.

4. Previous Illness.—None had had any previous illness while in camp.

5. Age.—Two were over thirty-one; all the others were between twenty-one and thirty-one, and 90 per cent were between twenty-two and twenty-six.

6. Rank.—There were fifteen second lieutenants, ten first lieutenants, two captains, and two majors.

### Conclusions

Contact plays the only predisposing role. It is impossible to determine what influence age has because the ages of the total number of officers were not obtained.

### Influenza Amongst the Nurses of the Base Hospital

Previous to the epidemic, there were about two hundred nurses at Camp Dodge. To meet the needs of the epidemic, four hundred civilian nurses and Red Cross army nurses were received. Altogether during the first week of October, there were six hundred nurses working in the influenza wards. Two hundred and eleven contracted influenza, or 35 per cent; thirty-five contracted pneumonia, or 16 per cent; six died, a mortality of 3 per cent.

1. Masks.—Of the total number of nurses who contracted the disease, there were only 12 per cent who had ever worn masks before in their wards, the other 88 per cent had never had any training in the modern care of contagious diseases and had no understanding of the principles of medical asepsis. A very large number of these nurses (of the 88 per cent) stated that the masks were uncomfortable and admitted that they might have removed them at some time or other while on duty in the wards.

Of the 12 per cent who contracted the disease and whose technic was reliable, 75 per cent had been sick from a week to two weeks before the epidemic began and their symptoms were somewhat doubtful of influenza. Of the entire number, therefore, there were only three per cent who beyond any doubt contracted influenza, against whom the inadequacy of masks could be argued.

2. Overwork.—Ninety (90) per cent of the nurses work between twelve and fourteen hours a day, and of the remaining ten per cent, none worked less than nine hours a day. A large number of nurses complained of being completely fatigued while on duty before they developed signs of influenza.

3. Incubation Period.—The incubation period was quite definitely seen in a number of isolated instances; for example, Nurse B. started to work in an influenza ward on October 5, had not been in contact with any patient before that time, developed signs of influenza on October 7, and was admitted to the Base Hospital the same day. Nurse C., came from civilian life to the Base Hospital on October 6, had not been exposed to influenza before; on October 9, developed signs of influenza, admitted to the Base Hospital the same day.

Of instances of this kind, 85 per cent of the nurses questioned showed an incubation period of two days; 10 per cent of three days, and the remaining 5 per cent between four days to a week. Those giving a history of one day, admitted that they might have been infected outside of the hospital, and, therefore, were discarded.

4. Age.—Forty-seven per cent were between the ages of twenty to twenty-five; 33 per cent were between the ages of twenty-six and thirty; 12 per cent were between the ages of thirty-one to thirty-five; 4 per cent were between the ages of thirty-six to forty; 2 per cent were between the ages of forty-one to forty-eight.

5. Previous Attack.—None had ever had the influenza before.

## Conclusions

As compared to other organizations, the nurses suffered a rather low pneumonia and mortality rate although a high incidence of influenza. Considering the predisposing factors of overwork and continouus intimate exposure, it seems remarkable that with the high influenza incidence, there should be such a low pneumonia and death rate. The masks may have afforded a mechanical protection against the inhalation of a maximum number of bacteria.

## Relapses

From the first of October until the sixth of November, there were eighty-five cases of so-called relapses, or more accurately readmissions, making an incidence of .8 per cent of the total number admitted to the Base Hospital. All of these cases were studied to see: first, which were relapses and which true infections; second, to see what possible causes there were for these readmissions.

Difference between Reinfection and Relapse. —Of the above number, 23 per cent were discharged from the hospital with no symptoms of influenza, the temperature had been normal for at least three days, and they were sent to their barracks for ten days convalescence. These patients complained of weakness, and in nearly every instance a cough. Within a varying period of time, from three to fifteen days, they complained of suddenly becoming sick with exactly the same symptoms as the first attack. They were considered cases of reinfection; those, however, who, after being discharged from the hospital, became gradually worse with the same symptoms with which they were discharged from the hospital, usually resulting in pneumonia, were called relapses.

Six per cent returned to the hospital upon the same day. They all complained of having undergone some unusual exertion. Several walked too far trying to reach their barracks. One couldn't find his company quarters, and was outside for a very long time on an inclement day, etc. All of this group developed pneumonia. Thirty-one per cent returned within a week; 39 per cent within two weeks; and the remaining 30 per cent three weeks or over. The cases were distributed uniformly, no more than two cases in any one company. Twenty-three per cent of the total number of readmissions were reinfections. Eighty-six per cent of these were readmitted between the first and second weeks. Only 3 per cent of these developed pneumonia and up to the present time none have died (November 7th 1918). There is nothing in the histories of either attack to explain the cause of readmissions. The relapses were characterized by a slower onset—the men gradually became worse after coming to their quarters, the

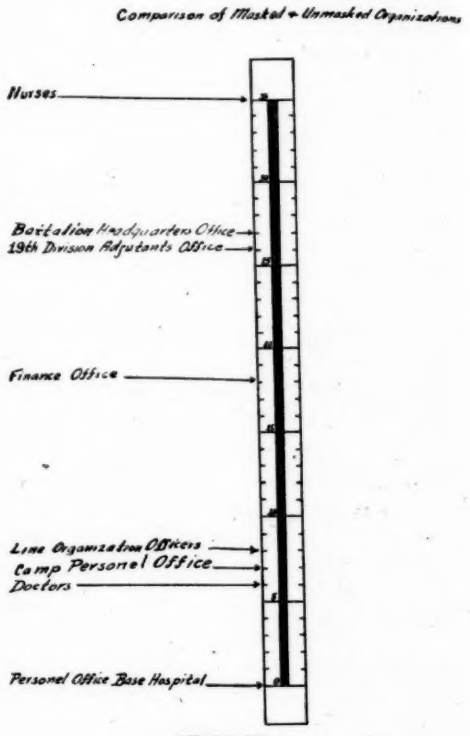


CHART VI

cough, which was a most constant sequel to the disease becoming worse, prostration increasing, and pneumonia in 31 per cent of the cases developing; of these, 11 per cent as compared to 26.6 per cent in earlier primary cases died.

No recurrent cases of pneumonia were discovered, the earlier pneumonias were allowed to convalesce in the hospital.

What was the cause of readmissions? A few complained of having been very weak when discharged from the hospital, several others of having done some work, while at quarters, which they couldn't stand, but

the majority gave no positive history in explanation of any constant causes for their readmissions. The question of immunity in relation with reinfections will be taken up in a later paragraph.

### Deaths

Of seven hundred and two deaths from pneumonia and influenza, twenty-six were amongst patients who had been in the base hospital previous to the epidemic on account of some other disease, before contracting influenza. Of these eight had had measles; one, mumps; one, varicocele; four, ear trouble four were genito-urinary cases; five had lobar pneumonia, not following influenza; one, appendicitis; one, infected face, and one had small-pox.

### Discussion of Miscellaneous Points of Interest

1. Congestion and Contact.—The Line organizations in a Camp are the most congested—contact is more intimate. There is a striking difference in the incidence of influenza and pneumonia between the Depot Brigade, which is representative of congested groups, and non-combatant organizations, such as the band, fire depots, etc. There is no question but that congestion increases the incidence of influenza and its complications.

2. Masks.—Besides natural immunity, is there any other means of escaping the disease? There is still a difference of opinion as to whether the mask affords adequate, reliable protection. We were unable to study this question scientifically, but a comparison of the masked and unmasked groups show that with the exception of the nurses, the former suffered less influenza and pneumonia than the latter; also the higher incidence amongst the nurses does not disprove the value of the mask because, as has been mentioned in a previous chapter, page 291, 88 per cent of the nurses who contracted the disease did not have a reliable technic. The mask must have some protective value.

3. Immunity and Susceptibility.—Why do about four men out of ten contract the disease and the other six escape it? Is it because of natural immunity, or is it because of artificial protection, such as freedom of exposure, wearing of masks, etc.? In an attempt to answer this question, one hundred men who escaped the disease from various organizations were asked:

(a) Whether they had ever had previous attacks.

(b) Whether they had been in work which isolated them from their company.

(c) Whether they had been away from the camp during the epidemic.

(d) Whether they had worn masks during the epidemic.

The answer of all one hundred men to all four questions was negative. It is logical to conclude that in the case of these one hundred enlisted men, there was a natural immunity.

Regarding the question of immunity, does influenza offer any immunity, and, if so, for how long?

The figures for the three hundred men in the Second infantry, all of whom had what was considered typical influenza on the transport the first week in July, 1918, and of which number only three had a second attack, would lead one to believe that the two diseases were the same, and that immunity held for a period of three months at least. Then, again, on the other hand, the fact that 23 per cent of the total readmissions at the base hospital, were reinfections, seems to contradict the positiveness of immunity.

Could there have been (1) two different organisms for the first and second attacks, (2) were the second attacks a relapse rather than a reinfection?

### Pneumonias

The epidemiology of the pneumonia, following our cases of influenza was in many respects different from that of the usual primary lobar pneumonia. The mortality rate of the former was 30 per cent, of the latter 3.6 per cent (of 106 cases from June 1, to September 1, 1918).

Our figures and those of other camps show that—,(1) men from rural districts are more susceptible to pneumonia (lobar) than are urbanites; (2) that the negro is more susceptible than the white man, (three negroes to one white man died of pneumonia from June 1 to September 1, 1918); (3) that the raw soldier falls a victim to pneumonia more easily than the seasoned. These facts were

entirely disproved during the present epidemic of influenza.

1. The percentage of soldiers who had been in the camp only one month, who contracted the disease was in direct ratio to the entire strength of the command, who had been here that length of time.

2. There was 1 per cent more of pneumonias amongst the negroes than amongst the whites in proportion to the total number.

3. There was no greater percentages of pneumonias amongst those coming from the country, (towns of 2,500 or less) than amongst those coming from so-called cities.

The only probable predisposing factor was previous respiratory illness.

### Deaths

The relation of previous illness to the development of pneumonia and consequent death, is of interest.

Of twenty-six cases of influenza amongst tuberculosis patients, there was only one case of pneumonia and no deaths.

Of seventy cases of primary lobar pneumonia, nine contracted influenza; five developed pneumonia, all of whom died.

Of thirty-six cases of measles with streptococcic, hemolyticus throats, thirty-five developed influenza, and six of these died of pneumonia.

Four cases of scarlet fever were exposed to a case of influenza which was diagnosed observation scarlet fever, none contracted the disease.

The effect of previous illness upon influenza and its complications bears further study.

### Races

D. Race has no influence upon influenza nor pneumonia, following. The incidence of influenza was the same in white and black, and a little lower influenza and death rate occurred for the white than for the black.

### Meteorological Report

E. The temperature, humidity, the wind and rain-fall were studied from the 15th of September to the 20th of October. No relation could be determined between these factors and the progress of the epidemic.

### Statistics

F. The following statistics govern the epidemic from September 18 to October 25, 1918:

| | |
|---|---|
| Average strength of command | 33,070 |
| Total number influenza cases | 10,008 |
| Total pneumonia cases | 1,923 |
| Total deaths | 702 |
| Per cent of command developing influenza | 30.2 |
| Per cent of command developing pneumonia | 5.8 |
| Per cent of deaths in camp | 2.1 |
| Per cent of influenza developing pneumonia | 19.2 |
| Per cent of mortality from pneumonia | 36.6 |
| Per cent of colored troops developing influenza | 29.3 |
| Per cent of colored, influenza developing pneumonia | 20 |
| Per cent of mortality colored, pneumonia | 39 |
| Per cent of white troops developing influenza | 30.4 |
| Per cent of white troops developing pneumonia | 19.1 |
| Per cent of mortality white, pneumonia | 36.3 |

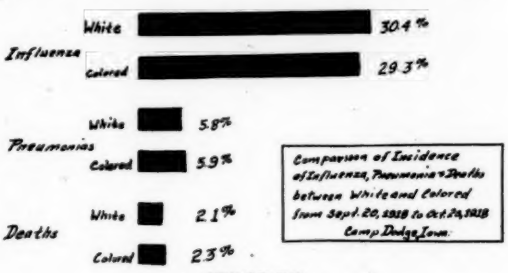


CHART VII

### Second Infantry

G. The Second Infantry had the lowest incidence, the lowest pneumonia rate although a relative high mortality rate. There were 6.6 per cent of influenza cases of these 8.7 per cent developed pneumonia, and of these 50 per cent died.

Of the total strength of command at the beginning of the epidemic, 1,735,800 of these came from Hawaii, leaving on the 29th of June, 1918. At the time of departure, the regimental surgeon noticed that 150 Japanese workmen were lying around the pier, sick, with signs of influenza. On the day after leaving the pier, thirty soldiers became sick with high fever, coryza, cough, prostration and aching body.

Within one week, three hundred had been attacked with what the regimental Surgeon

thinks was typical influenza. There were no cases of pneumonia and no deaths. Of the three hundred who contracted the disease, only three became sick the second time while at Camp Dodge. It is very probable that the cause of the epidemic on board the transport in July was the same as the one at Camp Dodge, but there was no complicating organism causing pneumonia in the former. This fact speaks for an immunity lasting three months, at least.

### Fourteenth Infantry

H. The Fourteenth Infantry had been in Alaska and Washington for a period of from two to three years before coming to Camp Dodge. The First Battalion Companies A, B, C, D, came on October 4th from Alaska, the rest of the organization had come before on September 24 and 25th. The men from Alaska had a fearful toll—they being the most severely affected. The entire regiment had a strength of command of 1873. Of these 48.5 per cent contracted influenza; 16.5 per cent of these developed pneumonia, and 43.3 per cent of the pneumonias died. Of Companies A, B, C, and D, with 800 men; 73 per cent had influenza; 38 per cent developed pneumonia, and 53 per cent died. These were men in excellent physical condition, they had undergone no epidemics; they had not been overworked; they were not exposed to a severe climate, and yet they showed less resistance than the physically inferior men of the Development Battalions. The explanation must be made on the theory that they had insufficient antibodies to fight a new and virulent host, such as they never had to overcome while in Alaska.

### Conclusions

1. The epidemic of influenza at Camp Dodge began about September 18th and lasted until about October 20th; when about one-third of all soldiers in the camp were affected. From the twentieth of October until the twentieth of November, there had been admitted from 6 to 15 cases of influenza a day.

2. The disease is self-limited, is carried along routes of travel by human contact, appears and disappears by crisis, so to speak.

The author wishes to express his appreciation of the kind encouragement of Major J. G. Maxon, Assistant Division Surgeon, to Major F. Burch and Major E. T. Edgerly, Commanding Officer and Chief of Medical Service of the Base Hospital, to Captain S. H. Jacobs, Camp Epidemiologist, to Major William Dwinell, Chief of the Laboratory Service, Captain J. Carr, Medical Consultant and to Miss Ida Brinton, Secretary to the Secretary of the Iowa Medical Society for typewriting the manuscript.

---

## INDICATION FOR SURGICAL TREATMENT OF THE THYROID GLAND*

GEORGE EARL, M. D.,
*St. Paul, Minn.*

The appearance of hypertrophy, colloid, and adenoma, has been well studied, and of course has determined much of our knowledge of the thyroid. Yet the microscope seldom can give us the clue as to surgical treatment. It would be well if we could remove a section as in breast diagnosis, and base our procedure on the report. Usually the patient needs medical preparatory care. Many times we only dare attempt a ligation. Even if a section were practical the picture is complex, different portions of the gland showing various changes. Further, as has often been stated, the pathology of the thyroid is not to be found in the gland alone. The entire body and all factors of emotion and mind must be considered.

With the medical, or perhaps a better word is indirect treatment, we will consider everything, except the direct attack on the thyroid, thus including removal of infections, necessitating major or minor surgical procedures, correction of environment, rest, suggestion, diet, and drugs. Internists with this broad vision achieve results far beyond what usual medical care yields. The surgeon must consider all these factors if he would secure the greatest benefit for his patient.

How shall we approach the problem of a diseased thyroid? The first rule, eliminating malignancy, abscess and such rare conditions as an occasional fulminating type, is that

*Read before the Clinical Club of St. Paul, September, 1918.

there is no need for immediate haste with the knife. We are not dealing with a pus appendix and there is time for study. Of all the members of the kinetic chain, the thyroid is the most easily observed, the most ocular. It would seem to respond to influence at times, almost like a barometer and may indicate something wrong somewhere else in the body, environment, mode of life, or thought. If this view were always taken at the first symptoms, the causation sought and removed, there would be more frequent return to normal function and less need for surgery. Further in those cases where surgery is indicated, the present success has been attained only by the most careful preparation and selection of time. This means the determination of the ebb and flow of symptoms, if there is relatively at the time a hyper or a hypo of activity and toxicity. If the symptoms are rising, caution is the watch-word. If severe, such procedure as the removal of an abscessed tooth, a tonsil, an emotional shock, or a severe examination, may be more than the patient can stand. Of course, there are indications, for instance a simple cyst or adenoma with well compensated and normally acting heart and kidneys, where almost ordinary surgical preparation will suffice.

One striking feature so often commented on, is the goitrous districts. For instance in the patients presenting at St. Paul, why are the thyroid changes more common in certain parts of Wisconsin than say, North Dakota. Simple goitre is exceedingly prevalent among school children in these districts. One naturally thinks of the water, and it is not only a question of the actual water as such ingested, but all plant and animal life raised and reared in this district make use of the same water supply, and their products in turn are largely ingested in the neighborhood. For instance, every glass of water and every glass of milk may have the same or nearly the same, proportion of presence or lack of whatever substance is adversely affecting the thyroid. If a toxin ,boiling of the drinking water throughout the entire territory as an experiment might yield information. Clinical experience would suggest the adding of iodine in some form to the drink or food in these districts. Chemistry along the lines of Kendall, of Rochester, producing thyroxin may evolve definite plans for these districts of correcting either the water supply or furnishing the diet with the lack of iodine or whatever substances are essential to normal thyroid metabolism. Feeding of thyroid substance effects favorably some simple thyroid cases and those of mental deficiency.

Speaking of simple thyroid in school children leads to the relation between this gland and the other internal secretions, and such vital considerations as puberty, pregnancy, and menopause. At puberty and pregnancy, nature would seem to call for increased thyroid production and to meet this demand the gland physiologically enlarges, after pregnancy it should return to normal and after puberty when nature's normal demand has been established it should not continue to enlarge or should not over-act. At the menopause, we note commonly an atrophy of the gland.

The association of the thyroid and sex is perhaps only one of the phases of the glands function. Regarding another member of the kinetic chain, Crile says, "The excitants of increased metabolism lead to increased thyroid activity; but as we have shown elsewhere, they cause also an increased output of epinephrin. Moreover, the symptoms of exophthalmic goitre are identical with those produced by the combined administration of epinephrin and of thyroid extract, plus those due to the deterioration produced by the disease in certain organs. Among organs thus damaged are the heart, the brain, and the liver. How then, shall we decide which symptoms are due to the suprarenals and which to the thyroid? Epinephrin increased basic metabolism, as is evidenced by increased temperature; it increases the blood pressure, the force and frequency of the heart beat, throws the blood from the inner larger arterial trunk to the periphery; dilates the pupils; producing sweating, and increases respiration. But epinephrin alone does not lower the thresholds of the brain; does not cause nervousness, and does not cause trembling and insomnia. These are caused by thyroid secretion. These two groups of phenomena, together with the modified function of damaged organs, as the liver, heart, and brain, make up the sum total of exophthalmic goitre." It would seem

of the members of the kinetic chain that the suprarenals are not often enough considered and that in some of our failures where we have treated thyroid symptoms, the suprarenal is either an associated or in some cases the chief offender. Crile, has suggested the possibility of future suprarenal surgery in cases of over-activity of that organ.

Pepper, in consideration of other organs of internal secretion, says: "One of the questions which can not fail to come to one's mind in all discussions of the results of treatment of hyperthyroidism by thyroidectomy is that concerning the possible disturbance by the operation of the balance between the other glands of internal secretion. Even though the function of the removed thyroid may have been altered or excessive, yet the activities of other glands may have been adjusted to balance, so far as possible, this condition of affairs, and this balance will be disturbed by the removal of the thyroid. Further it seems proper to question whether surgical removal of the thyroid is ever to be undertaken. In some cases where the hyperthyroidism or goitre is merely part of a pluriglandular process, or even where the hyperthyroidism may actually be an effort at compensation for a deficiency in function of other glands. For example, the pituitary body is said to enlarge after the removal of the thyroid, and an enlarged thymus is considered by some contraindicative for thyroideetomy, for, after operation, such cases frequently get worse, owing, it is believed, to the thymogenic auto-intoxication. Other examples might be quoted, but these are sufficient to suggest that we should be cautious in interpreting the return or alteration of the symptoms after the operative removal of the thyroid.

While as far as I know no activating chemical principle has been isolated in other endocrin glands than the thyroid, yet it would seem probable there is in them also a similar iodine content, doing their share of regulating or governing basal metabolism. Compared with such other endocrin glands as the pituitary, suprarenals, and sexual glands, the thyroid is larger and has a much richer blood supply, that it would seem reasonable to call it the chief regulator or governor of basal metabolism.

The emotions and mental activities of all walks of life at times cause tremendous strain and the thyroid is the most visible measure. This is the phase of relationship with another probable member of the kinetic chain, the brain. I especially remember one young lady whom I had been observing for a pelvic condition for some months, and whom two weeks after a disappointment in a love affair, with no sleep in the interval, had an enlarged thyroid, tender to touch and with definite symptoms. Failure of regularly licensed medical men to recognize fully the power of mind and emotions over the body has resulted in the tremendous growth of Christian Science, and it is a sad commentary that these people and other cults at times achieve cures. Medical men must more frequently recognize and emphasize this mental phase in order to prevent the increasing influence of dishonest and honestly misguided theories.

Let us turn to etiologic considerations of infections. With the acute fevers the thyroid may become inflamed, at times with pus formation. A painful swelling of the thyroid has been especially observed in acute articular rheumatism, typhoid fever, measles, and scarlatina, and given the name of "the thyroid sign" by Vincent. It would seem an indication of hyperfunction called forth by the necessity of resisting the infection. While these infections and toxins come from anywhere in the body, yet we think especially of those of the head. In this country, Billings headed the clinical workers and Rosenow's work at the Presbyterian Hospital and now at Rochester, has lead the laboratory investigation. Buford, in discussing surgery of children remarked on the improvement in thyroids of very young children appearing in dispensary, by the removal of tonsils. It seems reasonable that the types of streptococci that affect the heart, kidneys, and which we know are associated with rheumatic infections should also influence the thyroid. The teeth, tonsils, and upper respiratory tract, have a close anatomic and direct lymph channel connection with the thyroid. Embryologically the thyroid arises in close contact with the glands into which drain infection of the head. Personally we aim a very thorough search for focal infections of the head in treating thyroid

and in many instances definite improvement results from such attack.

In the thyroid, as elsewhere, from an infective standpoint, tuberculosis is being emphasizeed. The literature gives the French first mention. Roger and Garnier studied the production of thyroid disease experimentally by the injection of tubercular emulsion. They also called attention to sclerosis of the thyroid which they regarded as due to toxins, not to the bacteria themselves. In the same year, Torri also found the connective tissue of the thyroid in tubercular patients, sometimes sclerotic, sometimes myxdematous. He also injected tubercular bacilli into dogs, carotid vessels, and produced thyroiditis with tubercle formation; he also found hypersecretion of colloid in which poorly stained bacilli and remnants of bacilli could be found soon after injection. For this reason and because bacilli do not grow on thyroid extract he attributes a bactericidal action to colloid, and thus indirectly confirms Morin's findings. Roger and Garnier hold that the toxins that produce these effects reach the gland through the circulation, but Torri thinks they are endotoxins set free by the destruction of the bacteria in the colloid.

Poncet and Leriche believed that tuberculosis of the thyroid is rare, but that nothing is commoner than thyroid disease due to inflammatory tuberculosis. Also that tuberculosis may produce various thyroid disturbances which may be purely functional or anatomical. The functional disturbances may be deficit or excess of secretion, the anatomical may be atrophy or hypertrophy. It is probable that inflammatory tuberculosis produces many of the symptoms of hypothyroidism such as obesity, certain trophic skin diseases, and certain periphery circulatory troubles, such as cyanosis. They think it probable that one of the results of tubercular hypothyroidism is the condition known as thyroid rheumatism. Next to sclerosis they say, the most common thyroid lesion in tuberculosis is adenoma. Continued irritation by tubercular toxins leads to hyperplasia of the gland. They conclude, after quoting, the work of many investigators, that tuberculosis is the cause of a great many of thyroid disturbances, either of deficit or excess and in many cases these may be regarded as signs of tubercular intoxication.

In some cases if the thyroid is enlarged or overactive to fight the poison of tuberculosis, a clue to treatment would seem to be through attacking the poison rather than the engine that is trying to put the cause out. This was illustrated in two parallel cases of mine. Both were of the same age, both ran about the same slight elevation of temperature rather slow pulse, both had had pleurisy. There was no positive sputum at time of examination and observation, but X-ray examination and physical findings were positive for tuberculosis of the lungs. In the one because of pressure symptoms, and my only excuse is because it was some years ago, I operated, removing most of the gland. One year later the patient was dead of pulmonary tuberculosis. She had temporarily felt better from relief of pressure symptoms, but had lost the agent that was helping to fight the infection. The other case, I have watched for a period of five years. She was given thyroid gland and more or less has been on this since. The goitre is slightly smaller, is less tender, there is less pressure, and yet she has since borne her fourth child, which is strain enough for a tubercular type, and has had to work as hard as ever. If the first case, the one operated, had been fed thyroid after the operation the final outcome might have been different. Two cases never prove anything, they are simply quoted as typical of a considerable observation. A search of literature reveals such a large number of careful observers to be of this opinion as to make one feel that relationship at times between tuberculosis and thyroid is quite plausible.

It is at times a difficult problem to differentiate whether a patient should be treated for tuberculosis, whether the goitre is for the time being primary and probably surgical or whether the nervous system is the factor. Such cases are not the type illustrated before with slow pulse and definite history and findings, but they have temperature, rapid pulse, physical chest findings, suggestive, but not positive. At times they have high blood pressure and one cannot help thinking of the suprarenals or of course kidney disease. The picture is not clearly one of hyperthyroidism

or thyrotoxic disturbance, nor one of definite tuberculosis nor of hysteria.

I am aware that in thus emphasizing tuberculosis I have followed the pendulum of medical opinion. There are those who believe too many conditions are called incipient tuberculosis, tuberculosis of a larval type, etc. These would rather employ such terms as diathesis, neurasthenia. They scoff at calling these border-line cases all tubercular. It may be that in our anxiety to diagnose early tuberculosis we have erred in thinking it the dominant note of the clinical picture presenting, whereas, some term of the nervous system would closer describe the chief factor of the symptom complex. But from the practical stand-point tuberculosis visualizes to the average patient and physician, the regime medical men would usually prescribe for these cases, namely; rest and general constitutional upbuilding with proper mental suggestion.

Syphilis as a causative factor has not been so closely studied. But from the similarity between tuberculosis and syphilis microscopically, with the same sequence of ulcer, glandular stage, and teritiary changes, with the literature interested in the value of K. I. and Hg. in tuberculosis showing similarity of benefits as in syphilis, it would seem that specific examination should never be neglected in connection with the thyroid. Syphilis often affects the voice and before operating on a thyroid for voice affection, a thorough laboratory examination should be made and the therapeutic test applied.

This question of differential diagnosis reminds one that it is not long since a goitre was commonly diagnosed only in the presence of such symptoms as marked enlargement of the gland, exophthalmos, extreme heart symptoms or perhaps tremor. One realizes today how small a factor exophthalmos is and that some of our most vicious goitres may give little external evidence on the neck. Nervousness, sweating, tachycardia, at once call our attention to the need of eliminating the thyroid as a factor. Increased pressure pulse is taken as readily now a hint to investigate the thyroid as aortic syphlitic involvement.

A basal metabolic laboratory bids fair to be a necessary adjunct to one doing thyroid work. Dr. Plummer at Rochester has a laboratory so much greater and a collection of observations so much larger than any one else that we are awaiting more definite published statements on its value. Dr. C. H. Mayo at the last American Medical Association meeting expressed his opinion of the great importance of metabolic studies.

Means and Aub following the lead of Du Bois and others who made a study of exophthalmic goitre from the point of the basal metabolism, came to these conclusions:

1. The general metabolism shows a characteristic increased in hyperthyroidism.

2. This rise may be used as a functional test of the thyroid activity or as an index of the intensity of the thyroid intoxication.

3. An extended study of the metabolism in various types of toxic goitre show that:

(a) Rest alone causes a marked decrease in toxicity.

(b) Drugs in addition to rest do not materially accelerate this decrease.

(c) The Roentgen ray, is some cases, produces a definite improvement, while in others it seems to be quite without effect.

(d) The usually immediate effect of surgery is a marked decrease in toxicity, but there is a very definite tendency toward a subsequent recurrence.

4. The lesson in therapeutics to be drawn from these results we believe to be about as follows:

(a) Complete rest in bed plus irradiation should be continued until the metabolism reaches a level.

(b) If rest and the Roentgen ray fail to restore the metabolism to within 20% of the normal, it is proper to resort to surgery, unless there is some definite contraindication. Among contraindications arising metabolism, in spite of complete rest, seems to be very important.

(c) Following operation, if the metabolism again increases, further active treatment should be carried out. The observation in the cases that we have followed for a long time emphasize the importance of keeping cases of exophthalmic goitre under observation for months rather than weeks, preferably years rather than months.

I can appreciate the claims to good results by competent internists who insist on a minute study and careful regime. I can understand the failures surgically when one narrowly considers the thyroid alone and fails to take cognizance of the etiologic factors. However, this is no brief for medical men who insist on treating all thyroids.

Surgeons who constantly keep in mind the adolescent and soft type goitres, consider all etiologic factors, seek a careful differential diagnosis, do the stage operation, reckon amongst their operated patients none more grateful than their thyroid patients. Such conditions as simple cysts and adenomas markedly outlined, resolve themselves into a question of pressure or mental attitude of the patient. The rare cases of abscess, carcinoma, and the fulminating type of thyroidism, subject themselves to the usual surgical indications. Where the over-activity of the gland or the toxic elimination from its pathology is great even if there were some method of wearing it out, the damage by that time to the rest of the body will be irreparable. In these cases given the selection of the proper time as to ebb and flow, and the proper preparation, surgical interference is as much indicated as in an acute ruptured appendix. One cannot help but think of natures response in the form of peritonitis being an effort to attack the cause, but the strength of her response is at times so great that it itself becomes an evil, and Crile points the need of restraining this over-aggressiveness by morphine and other measures. So with the thyroid it may be that nature in order to combat an evil sets in motion an overactivity that gets beyond its control and return to normal function before irreparable harm to the body is done is impossible without the aid of the knife. As regards secondary changes resulting in abnormal thyroids that produce toxines, even if part of the gland could be made to return to normal function there are parts where the changes have progressed so that they have become an entity in themselves as a toxic factor and only mechanical interference will stop the poisoning of the body.

### Conclusions

Before directly attacking the thyroid and accepting for the immediate and simple indications it should be considered a barometer, that there is something wrong elsewhere in the body, mode of life, or thought, or diet, and a most thorough search for etiology made.

Scientific investigation along the lines of basal metabolism and the chemistry of the thyroid offers our greatest hope for new advance in diagnosis and treatment.

Surgery has proven itself very valuable in approximating health. The disease of the gland becomes an entity that must be considered in addition to the method of indirect attack.

The stage method of operation, proper preliminary preparations, and satisfactory technique, have become fundamental.

### REFERENCES

1. Edward C. Kendall—Endocrinology, Volume 2, pages 81-93.
2. George W. Crile—Journal A. M. A., August 25th, 1917.
3. O. H. Perry—Pepper Progressive Medicine, Volume XXI No. 2.
4. Roger and Garnier—Arch. Gen. De. Med. 1900, el. XXXV.
5. Torri-Lezione—Chir. 1900, age 45.
6. Poncet and Leriche—LaClerique, Paris, 1910, Volume 613-616.
7. Plummer—Trans. American Assn. Phys., 1915, Volume XXX-450-457.
8. C. H. Mayo—Journal A. M. A., August 31, 1918.
9. J. H. Means and J. C.—Aub-Journal A. M. A., July 7th. 1917.

## PLANT DERMATITIS*

E. D. Brown
The Laboratory of Pharmacology, University of Minnesota.
*Minneapolis, Minn.*

Almost every physician is more or less familiar with the condition commonly known as ivy poison, or dermatitis venenata.

The diagnosis is usually easy, and the history of the case lends confirmation, for the symptoms appear from one to eight days after exposure, which is usually traced to a visit in the country.

There are other plants which may produce severe dermatitis, in which case the etiology may not be so clear, and a correct diagnosis is more or less puzzling.

*Read before the Minnesota State Medical Association, August 29, 1918.

My attention having been called to a very severe case of dermatitis brought about by the application of tincture of arnica led to a review of the literature on plant dermatitis.

In the first place it may be stated that certain individuals possess an idiosyncrasy, or hypersusceptibility, toward certain drugs, and it is natural to assume that a great many plants may produce a dermatitis in those cases where a hypersusceptability exists.

While the literature shows many instances where this is true, I wish to speak especially of those cases where it is not uncommon.

Farquharson[1] in 1879 mentions arnica as a drug which occasionally produces an "erysipelatoid inflammation." He describes a case of an old woman who had applied diluted tincture of arnica to a sprained arm, which caused an inflammation at the point of application which slowly spread over the whole body causing much irritation, discomfort and depression.

Davidson[2] during the same year reports a case where diluted tincture of arnica was applied to a bruise on the arm. The result was "erysipelas" of the arm, shoulder, neck and thorax of the same side, and in consequence he was confined to bed for three weeks.

Five years later the same individual applied diluted tincture of arnica to a wasp sting on the wrist. Two days following, the arm was swollen, red and sore, with enlargement of the axillary glands. The patient was confined to his bed for ten days on this occasion.

Seven years later the same patient again applied tincture of arnica to an injury to the knee. The second night after applying, the leg was swollen and red to the middle of Scarpa's triangle. There was a rise in body temperature and lymphatic enlargement.

The "erysipelas" was succeeded by abscesses over the thoracic and abdominal walls and gluteal region. A son of the patient has the same idiosyncrasy as the father for tincture of arnica, while the rest of the family can use it with perfect impunity.

Proctor-Sims[3] reports a case of arnica dermatitis which was of an extremely irritable and erythematous character which subsided in a few days.

The plant which appears of the most interest is the primrose (primula obconica) which is commonly grown in the green houses and sold as a house plant.

Attention was first called to this plant as being responsible for a dermatitis by J. O. White[4] who exhibited the primula before the Boston Society for Medical Improvement at a meeting in 1890.

The plant was introduced from China to European florists in 1882. One of the florists instrumental in its propagation suffered from an artificial dermatitis upon the hands and face which was of an eczematous type. A recurrence of the condition the following year at the propagating season, and other employes at the greenhouse being afflicted in the same manner, made the cause quite clear.

It appears that the author had previously reported in an agricultural magazine the possibility of a dermatitis resulting from the handling of this plant, but no response came until the following year.

He describes the dermatitis as running from an erythematous up to the vesicular form, lasting a short time and states that many cases of eczema may possibly be due to the action of this plant.

Kirk[5] reports a case of primula dermatitis associated with myxodema in which the mucous membrane of the mouth was involved.

The patient responded to treatment for myxodema but there was recurrence of the dermatitis. The diagnosis was later made by a florist who was furnishing plants to the patient. The patient recalled having chewed some of the flowers, which accounted for the severe inflammation and swelling of the mouth and tongue.

Foerster[6] points out the frequency of a severe degree of dermatitis due to coming into immediate contact with the primula. He mentions the fact that the dermatitis is not ordinarily recognized by the medical profession, and classifies the dermatitis into three types depending upon the degree of idiosyncrasy.

Sweet[7] reports a case where a woman gave a history of suffering from a most obstinate dermatitis for three years with occasional exacerbations and remissions. The cause was found to be due to a plant, primula obconica,

in the window at her home, which was banished, with the result of no further recurrence.

Zeisler[8] reports having cared for at least 25 cases of primula dermatitis affecting mainly the hands and face.

He states that many patients are treated by the family physician, and even dermatologists, for supposed eczema and at times for recurring attacks of mild erysipelas.

Brown[9] reports a case where the patient died from pneumonia due to an infection following a dermatitis of the nose caused by smelling primula obconica.

He also reports having treated two other cases of primula poisoning, one of which died.

Simpson[10] attempted to isolate the active constituent and determine its relation to anaphylaxis. He found a crystalline body which he claims is a glucoside, an oleoresin and a dark powder which he thinks is an acid. The glucoside and acid were active but they differed in their action.

Experiments performed to determine whether the skin irritability was due to the plant protein sensitization were absolutely negative. This was determined by inoculating a concentrated protein extract into susceptible patients, in all cases there being no reaction.

He concludes that since the skin irritability is not due to protein sensitization, it bears no relation to anaphylaxis.

Since I became interested in the subject of plant dermatitis I have made inquiry among the florists concerning the frequency of poisoning by the obconica and find as a rule they are aware of the irritation produced by this plant.

In conclusion I trust this review may be of some value in bringing to your attention the possibility of certain obscure cases of dermatitis being of plant origin.

## BIBLIOGRAPHY

1. Brit. Med. Jour. Vol. 1, 1879. 223.
2. Brit. Med. Jour. Vol. 1, 1879. 625.
3. Brit. Med. Jour. Vol. 2, 1912. 1707.
4. Boston Med. & Surg. Jour. cxxii. 425. (1890).
5. The Lancet, Vol. I, 1899, p. 579, 1630.
6. J. A. M. A., LV. 642. 1910.
7. J. A. M. A., XLIX. 329. 1907.
8. J. A. M. A., LVIII. 2024. 1912.
9. The Lancet. Vol. I. 1906. 861.
10. J. A. M. A., LXIX. 95. 1917.

## DISCUSSION

DR. H. W. HILL: (Discussing the paper of Dr. Brown): I have been very particularly interested in this whole subject, having seen a number of instances where different foods, taken perhaps with impunity for many years have suddenly become capable of bringing out a rash or something of that kind, on the person who was taking them. One of our colonels, a big husky man, who has been in France, and who was on the point of returning, developed a most irritating rash upon his body. By elimination, getting him to leave off one food after another, we finally found that it was strawberry jam, which he had eaten all his life, but which had just taken a bad turn against him; and he was getting some anaphylactic reaction. Similar conditions are well known with regard to almost all the ordinary foods. A very ingenious method of determining which particular food is involved is by simply taking extracts of the different foods, putting a little drop of each on the skin and puncturing through the drop with a needle, furl into the epidermus. Redness and swelling, like a tuberculin reaction indicate that you have found the particular food which may be at fault. Of course, the same information can be arrived at by eliminating one food after another, from the diet, but that is a very slow process.

DR. J. C. BOEHM, St. Cloud. (Discussing the paper of Dr. Brown): Mr. President and Members: I am very glad the doctor brought this paper before us. I have a very interesting case to report, in fact, two of them. My own wife went out early in the morning one day a good many years ago to pick lady slippers, cypripediums. She drove her own horse, and she had a young lady with her. She had on kid gloves. She picked the flowers, brought them home into the house and put them into a vase. About a week later she began to have so-called ivy poison symptoms, with the result that her ear swelled up to an astonishing degree, the eyes were completely closed and it ended with the formation of vesicles. She suffered terrifically for six weeks. I tried everything. I had Dr. Vanderhork from Minneapolis, and several others, but she obtained no relief until I painted her face with ichthyol and collodion. That formed a kind of a crust, and she got more relief from that than anything else. I was told by some of the older doctors that she would have this every year now from this attack. I could not quite believe that. I hid those gloves. About Christmas time I laid them out. She was pleased to find them, and she went out and wore those gloves; and naturally, she rubbed her nose. When she got home she told me she was feeling just like she did when she had that ivy poisoning. I let it go so that I could see it myself, and then applied the ichthyol and it disappeared. I again hid the gloves, and repeated that same process in March, and with the same result.

It was on the 4th of July, in the morning, that my wife drove out to get the flowers, and a week after that her friend who had been with her, went away. She stayed just a week. And when she went away, they had to wait for the train, and she told me that her face itched, and that evening we could see the rash.

A year after that I had a lady come in with, I don't know just what kind of poisoning it was. She was out in the woods, and she was poisoned all over the body. I told her to let me have the skirt, and that would I not charge her anything for the treatment. She first bathed with a solution of peroxide of hydrogen, bathed her whole body with it, and then put on the ichthyol in as many places and she could, where the irritation was most prominent. She got well, and I kept the skirt. In the winter I gave her that skirt and told her to wear it and stay in town over night. The next morning she had a nice dermatitis the same as she had in the summer.

As far as the strawberry jam rash is concerned, I was operated upon at the City Hospital in St. Paul. I had been an Interne there years before, and I was very well acquainted with the housekeeper. and the one who handled the orders for food and so on. She found out that I was fond of strawberries, so she sent in a dish for me to eat, and I ate them, of course. The next morning, though, the nurse took one glance at me;—I did not know what was the matter with me. But she rushed out, and the superintendent of nurses came in and looked at me and she also went away. They were horrified, and it was not long after that that Dr. Rogers came, and he said, "You have been eating strawberries, haven't you?"

DR. HILL: Had you ever been affected in that way before?

DR. BOEHM: No, nor since. I had the rash all over, and in 24 hours I began to itch; and since then I cannot wear wool next to my skin.

DR. J. T. CHRISTISON. (Further discussing the paper of Dr. Brown): I would like to be permitted to say a word in this connection. I was very much interested in Prof. Brown's resume of this subject, because I have had an experience very much like the one he recounted, only the patient was my own sister, and I, like he, was informed by some of the older physicians, that this accursed thing would return every year for at least three years. It did not, however, because we used some precautions which prevented it. But I do wish to report a case which had a very distinct bearing upon the subject.

Some years ago a very dear friend of mine with his wife, went into the woods and picked flowers. A little later he began to show symptoms of what we supposed was ivy poisoning. Dr. Cameron was called to take care of him, and in spite of everything that we could do, this man died. After three or four days the body was entirely covered with this eruption, going on from a simple dermatitis to the formation of blebs. The kidneys gave way under the strain, and I assume that the man died of a nephritis. But the point I wish to bring out is the fact that this particular gentleman had an accident policy which the insurance company refused to pay on the ground that his was not an accidental death. The case was taken into the United States Circuit Court, Dr. Cameron and myself appearing as witnesses, with the result that the policy was paid, and the precedent established in the courts of Minnesota at least, that death from dermatitis following poisoning by plants was an accidental death.

This brings to mind some extremely interesting things, not altogether germane to this particular subject, but in a general way as showing the susceptibility of individuals to particular types of drugs.

I was called out of bed the other morning at 2:00 o'clock, to see a child that was said to be suffering from some peculiar form of delirium, and found a little child acting like a raving maniac. She had during the late afternoon paid a visit with her mother to one of our oculists. He had prescribed for this child a solution of one-half of one per cent of scopolamine. The mother had used one drop of that solution in each of the child's eyes, that is all, just one drop of a one-half of one per cent solution; and if the father had not grasped the child at one particular moment while I was watching her, she would have dived head first out of a second story window.

I saw just a short time ago a child with whooping cough, with one of our physicians in St. Paul. The doctor was trying to make a diagnosis of scarlet fever. There was no evidence whatsoever of the preliminary symptoms of onset, insofar as scarlet fever was concerned. There was no vomiting, no temperature, no sore throat; and for a moment I was quite nonplussed. It did not look altogether like scarlet fever; and then something suggested to me to ask this question: "Have you given this child belladonna?" "Oh, yes," they said, "that is what we have used for the whooping cough." Here was a child that in addition to her other symptoms had delirium,—this one had also delirium—and had a typical scarletinal rash; and that recalls to my mind that some years ago I had an opportunity of reading some homeopathic literature; and if anv of you have ever read "The Provings of Belladonna you will remember a line that runs something like this: "Strikes, fights, bites and wants to jump out of window"; and then in large print, "BELLADONNA." Those are the indications.

Question: Do any of these patients have any temperature?

Answer: No.

DR. ROBERTS: I would like to ask Dr. Boehm, in view of the fact that some of these cases undoubtedly can be explained by anaphylaxis, we know that the remedy for these conditions is to make a vaccine from the offending plant or source; and I would like to ask if he could make a vaccine from that skirt? (Laughter).

DR. HILL: I would like to ask Dr. Boehm and also Dr. Christison: Dr. Boehm said that about a week elapsed between the exposure and the appearance of the symptoms. Can you fix it any closer than that, Doctor? Was it just a week or was it ten days? The point being that the eruption following after the toxic poisoning very often occurs within a certain definite period. Dr. Christison said a short time after exposure. Could you remember how long the time was, Doctor?

DR. CHRISTISON: In the case of my own sister, it was approximately one week. The exposure was on Saturday and on the following Thursday night she first developed symptoms. In the case of the gentleman who ultimately died, the first exposure was on Sunday and the development of the symptoms was on the following Friday.

DR. HILL: It is a little shorter than the usual period, which averages something like 8 or 9 days, when the rash develops.

DR. AUTEN PINE, St. Paul. (Discussing the paper of Dr. Brown): I have had quite a little experience with ivy poisoning and I have found that a strong solution of sulphate of iron, used for liberally bathing the affected parts, is very good.

DR. L. F. SUTTON, Wabasha, Minn. (Discussing the paper of Dr Brown.): There was a great deal of dermatitis following the beginning of the use of barley bread. After a few months time people became accustomed to it, and it subsided. When they first started to use the bread substitutes, with much barley flour, there was much dermatitis resulted. Perhaps they did not make their bread right. It seems to pass away. I would like to ask whether any other physicians have had any experiences of that kind.

Various Members: Yes.

DR. SUTTON: (Continuing). I will have to acknowledge my own inefficiency in another case, that of a lady who had gone to pick flowers and who came back in a few days time with a rash, gradually spreading over her body. I immediately suspected ivy poisoning. I treated her for that, but it did no good. I treated her then on the assumption of an acid intoxication, and gave her bicarbonate of soda, and it cleared up immediately.

DR. G. J. SCHOTTLER, Dexter, Minn. (Discussing the paper of Dr. Brown): I would like to ask if any of these cases which have had ivy poisoning were more susceptible after the first attack.

I had a severe attack of ivy poisoning contracted while I was moving an old fence, which had ivy on it. I began to itch on the fourth day of the work and on the eighth I was covered entirely. I was disabled for ten days. Since that time, if I go near the ivy plant, or any object on which there is ivy, I begin to itch. I have to be very careful. I wish to ask the gentleman if they have found that same thing in other patients?

VARIOUS MEMBERS: Yes.

PROF. E. D. BROWN, Minneapolis. (Closing the discussion): I did not know this paper would create so much discussion. I do not know the names of all the men who have taken part in it, so I will simply try to answer some of the questions.

In the first place, I think it is well established from these case reports, that the incubation period is from one to eight days. The average time is about four and a half days.

So far as anaphylaxis is concerned, there has been only one piece of work done in that line, so far as I know, and that was by the last author quoted. That problem was what I had in mind when I took up a review of the literature. The work done by Simpson has proved quite conclusively that it is not an anaphylaxis from the fact that he made a protein extract from this plant, and tried it on a number of patients who were quite highly susceptible without effect. So his conclusions were that it was not a true anaphylaxis, due to a protein intoxication.

We know that we have many drugs, not of protein nature, which produce skin reactions, when either applied to the body or taken internally.

Dr. Sollman, who has recently made a report in the Journal of Pharmacology and Experimental Therapeutics, has pointed out many drugs which produce skin reactions and it is surprising, the number that will give these reactions.

The plant dermatitis is the part in which I am particularly interested because I have a son who was affected in the same way as was the doctor's wife, except that in his case it came from the pussy-willow. He had it a year ago when out gathering pussy-willows; he had this severe eruption on the ears and about the eyes. It started up as an erythema, and then developed into a vesicle. Again this spring he got the same infection. Next year I shall follow it up closely and try to establish whether that is really the cause of it.

I have only mentioned these two drugs particularly, because I thought you were more or less familiar with them; but when we review the literature we find there are many. The moccasin flower, or lady slipper, is one of them. Even the bitter orange peel is reported as one of the plants which will produce this dermatitis. Also certain kinds of wood. I believe I have covered everything mentioned in the discussion.

I might add that they have tried to establish an immunity toward ivy poisoning. This was done by Ford, who claimed to have rendered animals immune to ivy poisoning but no other person has been able to repeat his work, and it is rather doubtful whether he really did establish an immunity.

So far as we know, those people who are once poisoned by ivy are very susceptible. The first man who worked on the principle responsible for ivy dermatitis was Maisch, who was one of our leading botanists and a professor of materia medica. He believed that it was due to a volatile poison, from the fact that people became poisoned by it although not coming in direct contact with it. Later, Pfaff isolated from the plant a fixed oil which was called toxicodenrol. It was hard to explain how this could be conveyed to an individual who did not come into intimate contact with the plant. He assumed that this might be carried on the pollen or dust. However, he established the fact that a very, very small amount—I hesitate to name it now,—but a very minute amount of this oil, was effective.

Since that work a more recent investigator has claimed to have isolated an acid resin, which he claims is really the toxic principle in the rhus toxicodendron.

# THE INTERRELATION BETWEEN ORTHODONTIC MALFORMATIONS AND DISEASES OF THE NOSE AND THROAT*

GEO. C. DITTMAN, M. D.,
*St. Paul, Minn.*

That malformations of the dental arches and the maxillae are a great etiologic factor in producing many nose and throat affections may be realized by a review of the closely correlated anatomy of the bones forming the face.

To better understand this orthodontic interrelationship a brief embryological survey is necessary. The evolution of the face depends largely upon the parts concerned in the formation of the mouth and nose. The first step in the differentiation of the face is the formation of the oral plate which makes its appearance on the twelfth day, later this becomes the mouth. At the third week the first and second visceral arches appear, the first arch divides into the mandibular arch and the maxillary process, the second arch springs from the mandibular arch; as these processes grow toward the median line the maxillary process becomes the upper jaw and the mandibular process the lower jaw. At the second month a groove makes its appearance on the frontal protuberance and on each side of this there is formed two nasal processes, the outer pair becomes the outer wall of the nose and the inner pair the septum, as these processes grow downward the union of the two upper portions of the mandibular arch forms the floor of the nose.

By the second month of intrauterine life the septum becomes cartilagenous and by the third month ossification begins in the vomer, into the groove of the vomer the perpendicular plate of the ethmoid fits anteriorly, the rostrum of the sphenoid unites above and the nasal crest of the superior maxillary and palate bones unite below.

At birth the ethmoid part which goes to make up the nasal space is higher than the maxillary portion but it becomes of equal dimensions with age, this increase is due to the descent of the hard palate. As the teeth erupt the nares develops, the superior maxillae enlarges and the Antrum of Highmore forms, gradually increasing in size; with enlargement of the nasal chambers and formation of the alveolar process development is completed.

It will be noted that the septum is the last of the facial bones to ossify, the fact that ossification begins posteriorly explains the rarity of deformities in this part of the bone.

Thus the nasal chamber depends wholely upon the proper growth of these processes and the adjoining parts and any pathologic condition or malformation tends to affect either by extension or anatomical conformation the sinuses or orbital cavities with subsequent effect upon the ears interrelated as they are with these parts.

In the examination of the nares a deflected septum will be noted, but often if the oral vault is examined it will be found highly arched and the alveolar processes close together.

I have often noted that when doing the submucous operation for deflected septum where the maxillary ridge is thickened and broad there is usually associated with the condition a high arched vault and it must be further remarked that these are the most difficult bony ridges to remove, considerable hemorrhage takes place and when a chisel is used it may be broken in the attempt to level the ridge.

A high arched vault with narrow alveolar processes must tend to so crowd the turbinate bodies and septum together that the respiratory space within the nose becomes greatly decreased which in turn causes mouth breathing and its subsequent results—dry pharynx, enlarged tonsils, adenoids and fetid breath.

It is stated that tonsils and adenoids are the most common cause for mouth breathing in the young, but is it not possible, because of anatomical nasal defects that the enlargement of these tissues might be due to an increased hyperamia mainly as a result of the orthodontic anomaly? What effect treatment of the dental arches has upon the nasal spaces and septum can be appreciated by the joint observation of orthodontist and rhinologist of these cases.

Trendelenberg states that a persistent high arch of the hard palate is the cause of a deflected septum. Ballenger concluded that it

*Read at Joint Meeting of Ramsey County Medical Society and Ramsey County Dental Society, Sept. 30, 1918.

is due to incoordination in the development of the bones of the face, this is a fair conclusion when it is realized that the most important area within the nose and known as the viscuous area is but one inch in diameter and any obstruction to this region might cause an infection of the nasal sinuses and because of their close anatomical relationship would produce an intrusion upon or actual rupture into the orbital cavity, although more often monocular both eyes may be affected.

Ocular complications are more frequent in chronic than acute sinus infections, perhaps the most misleading ocular complaint resulting from sinus involvement is asthenopia or an inability to use the eyes for near work for any length of time.

As the sinuses under normal conditions are designed to contain air any secretion of whatsoever nature remaining for any length of time is pathologic and the importance of early and free drainage should be recognized.

The throat is primarily affected by attempting to clear it of the increased secretion and mucous, dropping from the posterior nares.

From a neurologic view directly as a result of nasal obstruction or malformation the trigemius that great sensory nerve of the head with its vast number of distributing branches may be directly affected through reflex conditions.

How best to treat these conditions. In children the tonsils and adenoids if enlarged should be removed at an early date any malformation of the alveolar arches or teeth should be taken care of by the orthodontist, the proper time is during the development of the bony structures and the teeth, since this period extends over several years the greatest importance should be placed on proper occlusion best obtained and constructed at this stage in life.

It can not be advisable to perform a submucous resection of the septum too early in life or remove enlarged turbinate bodies; it is surprising how rapidly the turbinate bodies will shrink down to normal after removal of the tonsils and adenoids.

With adults who have gone through life with high arched palate and contracted dental arches, treatment is still a matter for discussion. L. W. Dean in the Journal of the American Medical Association Nov. 26, 1910, reports a case in which nasal breathing was impossible but by widening of the palatal arch the patient became a nasal breather; as regards the narrow chambers with deflected septum, enlarged turbinates or polypi secondary to sinus infection I believe it has been definitely settled that these conditions should be corrected by operation. Perhaps no operation produces such striking results as the submucous operation for the correction of septal deformities where there has been a narrowed nasal chamber with sinus infection and improper areation of the middle ear, the technique has been universally adopted.

**Conclusions:**

1. This is an era which must recognize dentistry as an aid to medicine and vice versa.
2. This is a subject which closely associates the orthodontist and rhinologist and for best results in the young a co-operation of the two specialties is imperative.
3. Nasal and throat operations in conjunction with orthodontic correction often gives best results to patient.
4. Orthodontic deformities and respiratory function are correlated.

---

## THE NERVOUS SYMPTOMS IN PERNICIOUS ANEMIA*

H. W. Woltmann, M. D., Mayo Clinic
*Rochester, Minn.*

"The mind occasionally wanders," said Addi son, when, in 1855 he gave to the world his classical description of idiopathic, pernicious anemia. This statement practically summed up what was known of the central nervous system in its relation to pernicious anemia until 1886, when Lichtheim described three cases of the condition, which presented symptoms ordinarily seen in tabes. Although Lichtenstern, two years prior to this, had published an article entitled, "Progressive pernicious anemia in tabetics," in which he considered the pernicious anemia to be dependent on the tabes, it was Lichtheim who first recognized the true significance of this syndrome.

*Abstract of paper presented before the Minnesota State Medical Association, Aug. 29-30, 1918, Duluth, Minn. and published in the Am. Jour. Med. Sc., March, 1919.

The resemblance of these cases, both clinical and particularly anatomic, to tabes dorsalis, is however, only superficial. The changes in the cord have been longest known and studied in great detail. Here the degeneration is seen to begin as small, isolated plaques, with primary involvement, as a rule, of the posterior columns, later of the lateral columns also. These plaques, by confluence and secondary degeneration ultimately bring about a diffuse and extensive disintegration of the white matter of the cord, known as subacute combined sclerosis. Although the brain was for a long time thought not to be involved in this type of degeneration, investigations of the past four years have revealed definite areas of destruction here also. Nor is pernicious anemia alone responsible for this particular type of subacute degeneration. Among the causes are the leukemias, Addison's disease, probably very severe secondary anemias, diabetes, nephritis, senility and arteriosclerosis, pellagra, tuberculosis, syphilis, leprosy, malaria, typhoid, septicemia, scarlet fever, diphtheria, influenza, chronic alcoholism, lead, phosphorus, arsenic—in short, this degeneration in the nervous system may be the concomitant of almost any chronic intoxication. And, too, in pernicious anemia, it is not the anemia so much as the associated toxin or toxins, that is responsible for the damage done the central nervous system.

The obvious conclusion, after a perusal of so long a list of etiologic possibilities would be that pernicious anemia forms an etiologic basis in but a small fraction of the cases of combined sclerosis. This is by no means true. Dana estimates this at about 10 per cent; Taylor, of 50 cases of combined sclerosis, found pernicious anemia responsible in 8, that is 12 per cent, Von Voss, basing his estimate on published cases of combined sclerosis, found pernicious anemia to be responsible in about one-third of the cases, which is approximately the percentage noted at the Mayo Clinic.

The estimation of cord changes present in pernicious anemia patients is variable and ranges from the general statement that it is present, "not in many cases of pernicious anemia" (White) to percentage estimates of approximately 2.8 (Bramwell); 11.7 (Nonne); 25 (McCrae); 40.9 (McPhadran) and 50 per cent (Henneberg). Since some of these figures were published, the technic of neurologic examinations has been greatly refined so that more accurate observations are possible. Doubtless the percentage of cases of pernicious anemia presenting evidence of cord involvement is considerably higher than any of the foregoing figures. Of 282 unquestioned and not otherwise complicated cases of pernicious anemia seen at the clinic since 1916, 150 were subjected to a detailed neurologic examination of which not less than 80.6 per cent presented indisputable evidence of the destruction of nervous parenchyma.

Approximately 12.7 per cent of the patients came for the express purpose of seeking relief from symptoms directly attributable to involvement of the nervous system. Chief among these were the paresthesias, especially numbness and tingling of the hands and feet, which were present in about 80 per cent of all cases, regardless of whether or not involvement of the nervous system could be demonstrated objectively. This was expressed variously; patients complained that their hands and legs felt dead; that their "legs felt like sticks," or "like wood to the hips," "as though in a cast," or that "the hands and feet felt padded," "like thawing out after being very cold,'' and "as though the limbs were filled with innumerable ticking watches." In some instances the entire body was numb, again some particular part, as the tongue alone. One patient complained that the buttocks were numb and felt bigger than normal. Many complained of feeling cold all the time, especially in the feet or in the knees, "as though a draft were blowing on them." In one case, the teeth and gums felt so cold as to cause the patient great discomfort. A goodly number complained of burning. Some have sticking, stinging pains in the limbs, as if they had been stung by some insect. One woman repeatedly had her daughter look for glass slivers which she thought must be imbedded in her finger tips. Shooting pains or tingling over a large surface occurs at times when some part of the body is touched as with cotton or with a pin. Ocassionally a patient complains of a girdle pain (2.8 per cent) or the sensation of a tight band drawn around the knees (1.7 per cent). A number presented themselves for examination because of inability to control the arms and legs properly. One of

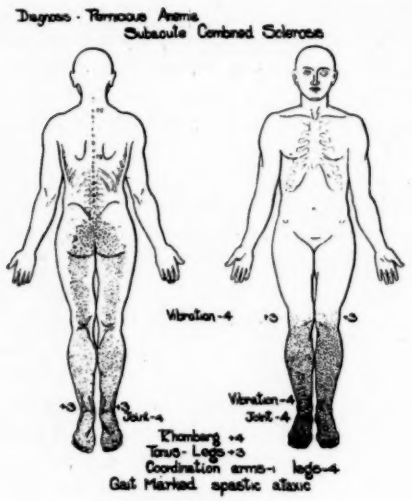


Fig. 1.

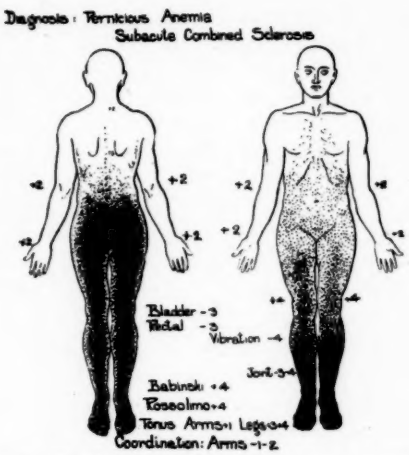


Fig. 2.—Illustrating the marked though unusual, degree of impairment of superficial sensibility.

these, a conductor, was seriously handicapped in his work because of the difficulty he experienced in selecting the proper coins by the sense of touch.

In the motor field, cramping of the calves occasionally proved to be the source of great discomfort. One patient complained principally of tremor. Another exhibited such marked, choreiform movements that she would repeatedly drop objects and fed herself only with great difficulty. In one instance a hemiplegic attack of three days duration was seen.

In relation to the cranial nerves, diminution in the senses of smell, taste, and hearing was noted. A central scotoma gave one patient great inconvenience. Disturbances of taste are not infrequent; to one patient, everything tasted sour, to another, bitter, and a third with normal mentality, included in her dietary egg shells and soft rocks which she carefully selected. Symptoms referable to disturbances of the eight nerve, especially, roaring, ringing or thumping in the ears, are very common. Sometimes there is a distressing dizziness, and now and then fainting spells are noted.

**TABLE I**

**Neurologic Diagnosis Based on the Examination of 150 Cases of Pernicious Anemia in 80.6 Per Cent of Which the Central Nervous System Showed Involvement**

| | |
|---|---|
| Subacute combined sclerosis type of lesion | 99.2% |
| Posterior sclerosis | 52.2% |
| Combined sclerosis | 45.4% |
| Lateral sclerosis | 0.8% |
| Multiple peripheral neuritis also present | 4.9% |
| Transverse myelitis with primary optic atrophy | 0.8% |

A glance at Table 1 makes it at once apparent that the type of lesion par excellence of the nervous system as evidenced clinically, is a subacute combined degeneration of the cord, regardless of whether this begins in the posterior or the lateral columns or in both simultaneously, though the columns of Gall and Burdock are in the majority of cases first and most extensively involved. Of considerable interest is the finding of multiple neuritis, which could be demonstrated in addition to the spinal cord

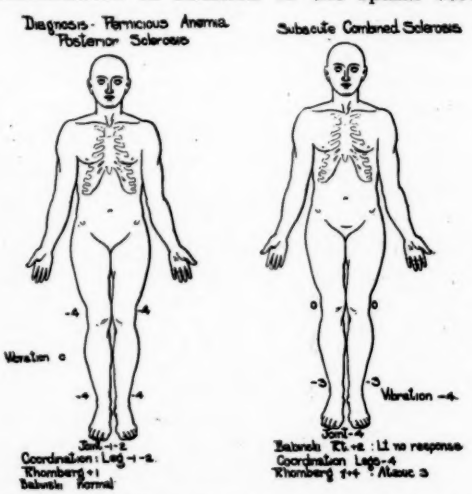


Fig. 3—Same as Figures 1 and 2. On the left the findings when first seen on the right one year and ten months later. Although the knee jerks have returned to normal due to secondary involvement of the pyramidal tracts, other findings indicate that the degeneration of the spinal cord has progressed and that in spite of a much more satisfactory blood picture.

lesion in 4 per cent of these cases, and in one instance, was present as nearly as it was possible to demonstrate this, unassociated with cord involvement.

**TABLE 2**

**Resume of Findings in 121 Cases of Pernicious Anemia With Coincident Involvement of the Nervous System**

| | Diminished | Absent |
|---|---|---|
| SENSIBILITY: | | |
| Superficial (tactile, pain, thermal) | 42.4% | |
| Deep | | |
| Joint (toes) | 60 % | 20. |
| Tendon | 12.8% | 0 8 |
| Vibration (256V) | 82.4% | 33.6 |
| Vibration or joint impaired | 92 | |

| | |
|---|---|
| FUNDUS: | |
| Pathologic | 63.4 |
| Low-grade retinitis | 33 |
| Hemorrhagic retinitis | 29.6 |
| Primary optic atrophy | 0.8 |
| MENTALITY: | |
| Apathy and somnolence | 28. |
| Irritability | 9.6 |
| Memory defects | 7.2 |
| Dementia | 2.4 |
| Emotional instability | 3.2 |
| Depression | 3.2 |
| Psychosis | .8 |
| Total | 35.2 |

| RFLEXES: | Increased | Diminished | Absent | Unequal |
|---|---|---|---|---|
| Patellar | 39.2 | 28.8 | 7.2 | 24.8 14.4 21.6 |
| Tendo-Achillis | 23.2 | 46.4 | 20.8 | 11.2 |
| Ankle clonus (sustained) | 4.8 | | | |
| Babinski positive | 26.4 | | | |
| Oppenheim | 7. | | | |
| Chaddock | 2.4 | | | |
| Rossolimo | 1.6 | | | |
| Mendel-Bechterew | 0.8 | | | |

| | |
|---|---|
| CO-ORDINATION: Impaired | |
| Arms | 15.2 |
| Legs | 55.2 |
| ROMBERGISM: 52. | |
| GAIT: | |
| Ataxia | 28.8 |
| Spasticity | 4.8 |
| Spastic-Ataxic | 8. |

| URINARY CONTROL: | Partial | Complete |
|---|---|---|
| Incontinence | 8.0 | 0.8 |
| Retention | 4.0 | 0.8 |

| MUSCLES: | Increased | Dim'shd |
|---|---|---|
| Tonus (legs) | 16 | 10.4 |
| Power, disproportionately impaired, in legs | | 8. |
| Complete paraplegia | | 1.6 |
| Atrophy, localized with fibrillation | | 0.8 |
| Chorieform movements | | .8 |

The cardinal findings anent the objective evidence pointing to involvement of the nervous system occur in the realm of sensation. Superficial sensibility was found to be definitely impaired in 42.4 per cent of the cases, excluding those in which the diminution was so slight as to be uncertain. (Fig. 1)*. As the accompanying figures illustrate, it varied considerably in degree and was usually most marked over the legs and the buttocks, there being little evidence of disasociation of touch, pain or temperature, such as is seen, for example, in tabes. (Fig. 2).

More significant still, is the disturbance of deep sensibility, particularly of vibration and of joint sensibility, which either singly or combined, were definitely impaired in 92 per cent. Here too, the disturbance is, as a rule, limited to the legs, pelvis, and lower portion of the spine, the upper portion of the body usually escaping intact. The impairment of deep sensibility is thus seen to be the most outstanding feature in the entire neurologic examination. In only 2.4 per cent of cases, was the disturbance in superficial sensibility more marked than diminution in deep sensibility.

Within the past few years, the psychic phenomena noted in these patients have been exhaustively studied and numerous contributions have appeared, many of them interesting and scholarly, although the texts in psychiatry, on the whole, dismiss the subject with a few remarks or neglect it entirely. A more careful search into the mental condition of these patients would reveal a higher percentage of abnormality than indicated in Table 2, in which only features which were marked are noted. In only one case, was there an outright psychosis present, and this was of the infection-exhaustion type. Here the anemia was ushered in with an acute hallucinatory confusion which cleared up after 3 weeks and reappeared once subsequently, pari-passu with an aggravation of his physical condition.

Relative to the condition of the reflexes, little need be added save in explanation of the chart. The absence of either patellar or tendo Achilles reflexes on one or both sides, was noted in 24.8 per cent and their inequality in 21.6 per cent.

In but one case was there noted a progressive paralysis with atrophy and fibrillary tremors of the anterior tibial group of muscles on one side, which must be interpreted as a degeneration going on in the anterior horn cells. Doubtless

*The numerals used in the figures represent degrees of diminution or increase on a scale of four; O being normal, −4 signifying complete absence, +4 very marked increase. Numerals placed next to the figure and not otherwise explained refer to the condition of the reflexes. The stippling indicates diminution in superficial sensibility. Other findings not charted are normal.

this occurs, though not with the frequency maintained by Rothmann and Teichmueller nor yet with the rarity claimed by some of their opponents.

The development of marked choreiform movements in this connection has not, as far as I have been able to learn, been reported before and is of considerable significance in connection with the pathologic alteration noted in the cerebrum of these cases.

## Summary

The salient points of the knowledge gained by clinical evidence of the relation which the nervous system bears to pernicious anemia may be briefly summarized:

In 80.6 per cent of moderately advanced cases of pernicious anemia, there is indisputable evidence of nervous tissue disintegration. This is in satisfactory accord with the pathologic findings, of which we may take the figures of Minnich, who demonstrated lesions in the spinal cords of approximately 77 per cent of cases of pernicious anemia.

Subjectively, some form of paresthesia, such as numbness and tingling, is rarely missing.

Objectively, one finds the most striking disturbance in the pathologically altered reflexes, not forgetting the tendo Achilles and Babinski reflexes, and the disturbance of vibration and joint sensibilities, the former of which may readily be tested with almost any type of tuning fork.

As an adjunct in differentiating pernicious anemia from other anemias, the examination of the nervous system will be found of inestimable value; it often forms an easy way out of a most perplexing situation.

# Minnesota Medicine

OWNED BY THE MINNESOTA STATE MEDICAL ASSOCIATION

PUBLISHED BY ITS EDITING AND PUBLISHING COMMITTEE

R. E. Farr, M. D. Minneapolis.
H. Longstreet Taylor, M. D. St. Paul.
L. B. Wilson, M. D. Rochester.
J. E. Hynes, M. D. Minneapolis.
J. T. Christison, M. D., St. Paul.

EDITOR
Ernest T. F. Richards, M. D., St. Paul.

ASSISTANT EDITORS
E. M. Hammes, M. D. St. Paul.
P. D. Berrisford, M. D. St. Paul.

ASSOCIATE EDITORS

First District — Geo. S. Wattam, M. D., Warren.
Second District — A. W. Ide, M. D., Brainerd.
Third District — E. L. Tuohy, M. D., Duluth.
Fourth District — F. L. Adair, M. D., Minneapolis.
Fifth District — Geo. B. Weiser, M. D., New Ulm.
Sixth District — A. E. Spalding, M. D., Luverne.
Seventh District — H. B. Aitkins, M. D. Le Sueur Center.
Eighth District — A. F. Schmitt, M. D., Mankato

BUSINESS MANAGER
J. R. Bruce

EDITORIAL AND BUSINESS OFFICES
LOWRY BUILDING : : : : SAINT PAUL, MINNESOTA

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Journal itself, not to individuals.
All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $3.00 per annum in advance. Single Copies 25c
Foreign Countries $3.00 per annum.

Vol. II August, 1919 No. 8


# EDITORIAL

## MAJOR GENERAL LEONARD WOOD

"Major General Leonard Wood combines in a very high degree the qualities of entire manliness with entire uprightness and cleanliness of character. He is a man of high ideals who scorns everything mean and base and who possesses those robust and hardy qualities of body and mind for the lack of which no mere negative virtue can atone. Hs is by nature a soldier of the highest type."—Theodore Roosevelt.

General Leonard Wood comes of New England stock and possesses many of the rugged honest qualities of his predecessors. Born on October 9, 1860, the son of a fine old type physician, his ambitions to enter the navy was overruled by home influences and he studied medicine at Harvard. While an interne in the hospital an emergency arose which showed at a comparatively early age a characteristic of this unusual man. It was a question of breaking a hospital rule requiring the interne to await a staff surgeon or of proceeding with an operation on a child where delay was dangerous. He did what he believed to be right, operated, ignoring red-tape. The child recovered but Wood was dismissed from the hospital.

After a year of practice in a slum district in Boston the young physician passed second in a class of fifty-nine taking the examination for the medical corps of the army.

As a captain in the Medical Corps Wood distinguished himself by ever being ready and volunteering for the most dangerous and difficult work. It was said of him that "no soldier could outwalk him, could live with greater indifference on hard and scanty fare, could endure hardship better and do better without sleep." For his part in the surprise and capture of Geronimo, the notorious Apache chief on July 13, 1886, Wood was awarded the esteemed Congressional medal of honor and given the commission of colonel.

Early in the nineties he was made presidential surgeon and it was while stationed at Washington that he met Roosevelt. These two unusual men with many of the same fine qualities of manhood naturally developed a strong friendship. Roosevelt was at this time Assistant Secretary of the Navy and was doing every thing in his power to have the navy prepared for what he believed an inevitable and just war with Spain.

Just before the Maine was sunk Wood was thinking strongly of resigning from the army and changing his occupation to that of a sheep-rancher out west. This event caused him to plan for active service in case of war.

When war actually came the country was in a deplorable condition of unpreparedness. In order to raise a force quickly, Wood and Roosevelt conceived the plan of raising a force of cavalry about one thousand strong from among western cow-boys and athletes—men who already knew how to ride and shoot. Roosevelt accepted a commission as Lieutenant-Colonel with the provision that Wood be made Colonel in command. Wood, with a fine display of knowledge of how to accomplish things thru military channels, mobilized his force in Texas in twenty-six days. After a short period of training the Rough Riders embarked for Cuba on June 13, 1898 without their horses for a campaign against Santiago. Their commander Colonel Wood, at this time comparatively little known throughout the country was within a month made brigadier-general of

volunteers and on July 19 was appointed Governor General of Santiago. In this position he was civil as well as military governor of the city. It was as Governor General of Cuba that Wood showed his versatility as a law maker, judge, sanitary expert and governor, in building roads, establishing hospitals, organizing a school system and devising a scheme of finance. What Cromer did for Egypt, Wood did for Cuba.

After leaving Cuba Wood was sent to Europe to attend the German Military maneuvers and he seems to have left some impression in Europe because of his knowledge of military affairs.

It has been commonly believed that much of Wood's success was directly due to favoritism from Roosevelt. While Roosevelt's friendship and admiration undoubtedly exerted an influence, it is worthy of note that the only promotion Roosevelt was able to give him was that of moving him from the head of the list of Brigadier Generals to be a Major General. It was McKinley who gave him his earlier promotions, and Taft who appointed him Chief of Staff, the highest military position attainable. Under Roosevelt's administration Wood was sent to take charge of affairs in the Philippines. He made the trip by way of the Suez and spent several weeks on the way visiting English and Dutch colonies and absorbing first hand information regarding colonial administration. In the Philippines he showed the same energy and fairness which characterized his Cuban administration.

When the Great War started in August 1914 Wood began to preach and act preparedness. With an eye to training college men for commissions in the immense army we would be called upon to raise if we became involved, he was the prime mover in the establishment of the training camps at Plattsburg and Monterey. His methods were later used in numerous officers' training camps thruout the country.

Wood was sent abroad before we declared war in 1917 to observe military methods and report. A politician might have made use of this opportunity to bring himself before the public eye. Not so in his case. Wood has shown himself thruout his career a man of action rather than of words. In fact tho much like Roosevelt, he seems to have differed in one respect. While Roosevelt may be said to have been a man of remarkable words and deeds, Wood has had little to say about himself. While Roosevelt may be said to have taken a step forward Wood ever took one backward.

When we actually declared war in April 1917 Wood, our senior Major-General—a former Chief-of-Staff, was left in Charleston, S. C. and another general put in command of the forces at the front. He said nothing. Later after training the 89th Division at Camp Funston and taking them east to embark, on the eve of their departure he received orders to take a desk assignment at San Francisco. He again said nothing. He did go to the president and as a result was sent back to Funston to train more troops. In an interview with a reporter he said of his visit "All that I feel privileged to say regarding my talk with the president is that he was very courteous and very considerate."

The armistice found Wood at Camp Funston confronted by a new problem. The incentive for his citizen soldiers had been suddenly removed. It was necessary to control some 27,000 men, newly made soldiers, affected as 99 per cent of the remaining three and a half million were. He met the situation with constructive regulations and converted the camp into a huge university with just enough drilling to keep the men in soldierly form. His methods were successful.

Since the armistice many have had the privilege of hearing General Wood. Altho not an orator his words ring true. He possesses more than mere personal magnetism. His energy and fearlessness combined with his known integrity single him out as one we like to consider the ideal American type.

---

## THE TUBERCULOSIS SITUATION

Tuberculosis has shown a marked and uniform decrease since the early eighties, not only in the United States but throughout most of the so-called civilized world. Just what effect the War has had on this decrease, it is too early to state but it is quite possible that the mortality curve will show a definite rise for a few years. The mortality records will tell.

After all, the cause of death as shown by the death certificate is the most accurate indication of the prevelance of a disease. This of course would be more accurate if we had universal post mortems and these performed only

by trained pathologists. No people has reached the degree of education and training necessary to make such a procedure at all possible.

Undoubtedly a few fatal cases of tuberculosis and even pulmonary tuberculosis are falsely certified by attending physicians. But this number must be small because about ninety per cent of tuberculosis deaths are due to the pulmonary form and few errors are made in its diagnosis.

The Federal Census Bureau calls attention to the fact that during the thirteen years up to and including 1917 the mortality rate for tuberculosis has been reduced from 20 per 10,000 in 1904 to 14 in 1916, a decrease of nearly 30 per cent. Tuberculosis has gone from the position of first as a cause of death to third. According to the 1917 figures, heart disease ranked first with penumonia a close second. Each of these three diseases accounts for slightly over ten per cent of the total mortality.

Attention should be drawn to the fact that this marked reduction in mortality is not limited to the last thirteen years. There was just as marked a reduction in the number of cases per 10,000 population in the thirteen years preceeding 1904. This is shown by records in the older localities where vital statistics are more dependable—for instance in Massachusetts and Prussia.

How can this encouraging reduction be accounted for? Tuberculosis is known to have existed for two thousand years. There have undoubtedly been waves of increase and decrease in its prevalence in various nations and localities during this period. Nationality, climate, economic conditions all play their part. Why this sudden definite and persistent decrease since the early eighties throughout a great majority of countries where vital statistics have been kept? Largely because it was in 1882 that Koch demonstrated the tubercle bacillus and tuberculosis was definitely classified as contagious. When a disease is known to be definitely caused by bacteria and "catching" the normal individual will not deliberately expose himself. (We venture to say that Dr. Hill's friend of Physical Culture fame is to that extent normal.)

Education plays a fundamental role in the control of all contagious diseases. The anti-tuberculosis campaigns started some ten to fifteen years ago in European and American countries has undoubtedly been working along the right lines inasmuch as education and publicity have been the main objectives. Something more than just knowledge of the fact of contagion was necessary. The manner of preventing contagion had to be supervised in the home more than anywhere else. Hence the visiting nurse. Contagion from tuberculosis occurs as with the majority of contagious diseases, most frequently in childhood. The sanataria in addition to providing for the care of the sick, perform the important function of isolating the contagious cases.

Those devoting themselves to fighting tuberculosis may take a great deal of credit for this continuation in the mortality reduction for tuberculosis. It is notorious that the medical profession has not been doing its part in assisting the anti-tuberculosis workers. The fact that in one of the largest cities of our state about a third of tuberculosis deaths are never previously reported to the health department is sufficient substantiation of this statement. This means that a third of all cases of tuberculosis are not reported until death and do not receive any benefit from anti-tuberculosis activities.

If anti-tuberculosis work is carried out as it should be, in co-operation with the physician in an effort to institute sanitary conditions in the home or remove the tuberculous individual to a sanitorium there is no legitimate excuse for this laxity on the part of us physicians.

Prevention of contagion is most important in the fight against this scourge. Cure at home or a sanatorium is a prolonged process. It does occur in a very definite percentage of cases and this fact justifies our recommendation of the sanatorium. On the other hand sanatorium authorities must make their treatment more attractive and social workers take better care of the patient's families at home if the object of the sanatorium is to be attained.

Never tiring efforts on the part of anti-tuberculosis workers and physicians are necessary if the downward trend in the tuberculosis mortality is to continue.

# REPORTS AND ANNOUNCEMENTS OF SOCIETIES

## MINNESOTA STATE MEDICAL ASSOCIATION

The Minnesota State Medical Association will meet in Minneapolis, October 1st, 2nd and 3rd. The sessions will be held at the Radisson Hotel and in the rooms of the Hennepin County Medical Society. The first session of the House of Delegates will occur October 1st, in the afternoon; and the scientific sessions will occur October 2nd and 3rd. These sessions will be as usual, those of the surgical and medical sections. The chairman of the surgical section is Dr. R. E. Farr, Minneapolis, and the secretary is Dr. H. P. Ritchie of St. Paul. The chairman of the medical section is Dr. E. L. Tuohy of Duluth, and the secretary is Dr. J. P. Schneider of Minneapolis.

The afternoon of Friday, October 3rd will be devoted to a joint session at which the president's annual address will be given, and in addition a symposium of interest to both medical and surgical men. The annual banquet will occur the evening of October 2nd at which time Dr. W. W. Herrick of New York will deliver an address on "Meningococcus Infection including Cerebrospinal Fever."

## THE SOUTHERN MINNESOTA MEDICAL ASSOCIATION

The mid-summer meeting of the Southern Minnesota Medical Association, was held at Rochester June 23rd and 24th. The registration of three hundred and sixty odd, showed a very large attendance.

Dr. John Williams of Lake Crystal, the president, conducted the general meeting most satisfactorily.

The social features of the meeting were most hospitable, no item however small was overlooked that could in any way contribute to the comfort and entertainment of the visitors. The luncheons on Monday and Tuesday at the residences of Dr. Wm. J. and Charles H. Mayo, respectively, were beautiful garden parties, and most thoroughly enjoyed by the hundreds of guests who passed the bounteous serving tables and then dispersed themselves in congenial groups throughout the grounds.

The banquet Monday evening was tendered by the staff of the Mayo Clinic, six hundred and sixty-five participated. At the banquet the guests were welcomed in short speeches by Dr. C. H. Mayo and W. J. Mayo. Dr. J. H. Adair made a most happy response in giving a toast to our hosts. Dr. Antoine Depage, chief surgeon of the Belgian Army, made the principal address on the lesson in surgery taught by the experiences of the world war. Dr. Willy Meyer of New York City, spoke on Air Tight Thoracic Drainage.

Dr. A. D. Bevan was prevented by sickness from being present. Dr. G Bowman closed a very interesting evening by a few pointed remarks on Hospital Standardization.

The clinic at the different hospitals were the centers of interest each morning. The reading and discussion of a number of papers consumed the afternoon.

## WABASHA COUNTY MEDICAL SOCIETY

The fifty-first annual meeting of the Wabasha County Medical Society was held at Lake City, Thursday, July 10th, Dr. E. H. Bayley of Lake City, presiding.

The business session was held in the forenoon. Dr. H. E. Bowers of Lake City was elected to membership.

The following officers were elected for the ensuing year: President, Dr. J. A. Slocumb, Plainview; vice-president, Dr. J. T. Bowers, Lake City; secretary-treasurer, Dr. W. F. Wilson, Lake City delegate to State Association, Dr. D. S. Fleischauer Wabasha. alternate, Dr. E. H. Bayley, Lake City; censor for three years, Dr. A. A. Rankin, Zumbro Falls. It was voted to hold the next annual meeting at Zumbro Falls, the society to be entertained by Drs. Rankin and Heagerty.

The meeting adjourned for dinner, the society and guests being entertained by the physicians of Lake City.

The afternoon session was held at the Lake City Hospital, where the following program was presented:

President's Address: "Cardiac Hypertrophy and Dilatation"—Dr. E. H. Bayley, Lake City.

Paper—"Surgery of the Gall-bladder"—Dr. J. T. Bowers, Lake City.

"Bio-Dynamo-Chromatic Diagnosis," with demonstration of apparatus and method—Dr. G. Schmidt, Lake City.

Upon request, Major W. B. Heagerty gave a talk on some of his army experiences while on duty in France and Germany.

Fifteen physicians were in attendance.

# CORRESPONDENCE

202 Essex Bldg., Minneapolis, Minn.
July 10, 1919.

Editor Minnesota Medicine,
Lowry Bldg., St. Paul, Minn.

We would greatly appreciate your kindness if, in the next issue of "Minnesota Medicine," you would call attention to the fact that we are looking for a physician who would be willing to travel in the Northern Division to establish First Aid Classes, give instruction in First Aid and Accident Prevention, and organize First Aid work. The salary would be in the neighborhood of $2,000.

Very truly yours,
Henry W. Cook, M. D.,
Medical Adviser, Nor. Div., Am. Red Cross

# OBITUARY

## DR. HUGH F. McGAUGHEY

Dr. Hugh F. McGaughey of Winona, Minn., died very suddenly in Tacoma, Washington, on June 20, 1919. He was born in Winona on July 25, 1873, and received his college education at the University of Michigan and his medical training at the College of Physicians and Surgeons in New York.

At a special meeting of Winona County Medical Society held June 23, 1919, the following resolutions were passed regarding the death of Dr. Hugh F. McGaughey:

The members of Winona County Medical Society record with sincere regret the untimely death of Dr. Hugh F. McGaughey.

As a student and practitioner he had proved himself of an unusually high order of ability.

Sound in judgment, a clear thinker, an ever ready friend in distress, he endeared himself to all those who had learned to rely on his professional services.

In his death we have lost a valuable friend and fellow practitioner.

Recognizing his worth and as an evidence of our appreciation of his worth, we, the members of Winona County Medical Society, do hereby resolve that the foregoing brief memorial of the connection of Dr. Hugh F. McGaughey with this society be entered in the permanent records of the society, and that a copy be delivered to the family of the deceased.

*Winona County Medical Society*
By E. D. KEYES, Secretary pro tem.

---

## LIEUTENANT EMIL KING

First Lieutenant Emil King, Fulda, Minn., a member of the 303 Sanitary Train, and at the time of his death, in charge of a field hospital Company was accidentally killed by a motor lorrie on the night of Sept. 11th in the great St. Mihiel drive.

Lieutenant King had been at the front with his Field Hospital Unit, when on account of the severe shelling, they were compelled to move farther to the rear. These movements were all necessarily under cover of darkness. It was an exceptionally black night and raining. He was cautioning his men to keep on their side of the road, in order that they might be safe from motor transportation. Standing in front of them, looking to their welfare and performing his duty with the highest efficiency, he was struck by a lorrie, causing internal injuries, which produced death in a few hours.

It was my pleasure to know Lieutenant King very intimately for a year before going to France. It was doubtful at one time, on account of his age, if he would be allowed to go. He came to me with tears in his eyes and begged me to intercede in his behalf to the Division Surgeon, that he might be allowed to accompany his organization overseas.

Lieutenant King was one of the first few medical officers who were called into training at Fort Riley, Kan. After spending three months in this intensive training camp, he was assigned to the 26th Engineers at Camp Dix, N. J., 78th Div. N. Army. His ability was soon recognized and he was transferred to the sanitary train, and given command of a company. He was a tireless worker and instilled his energy and patriotism into the men, who were afterwards to witness his death. He was born in Austria and came with his parents to this country when eleven years of age. Although born in the land of the men he was fighting, no greater patriot ever answered his country's call.

Having been given a fairly good description of his burial place, being well acquainted with the terrain of that sector, a search was made for the grave. The hunt was successful, having located it near Fey en Hey, which is in the Toul Sector almost at the extreme south end.

It is also very near Mamey at which place his Division was stationed at the time of his death. It is also less than fifteen miles from that famous city of Metz.

Thus runs the story of another noble medical officer who paid the supreme sacrifice, that the "world might be safe for Democracy."

(Signed) Dr. F. J. McAlester,
Hawarden, Iowa.

# OF GENERAL INTEREST

Dr. H. D. Diessner has removed from Chaska to Waconia.

Dr. C. R. Stanley formerly of Ely will locate at Fulda.

Dr. L. H. Bussen of Baker, N. D., has located at Swanville.

Dr. Holte of Crookston is motoring with his family through the West.

Dr. W. W. Drought has returned from the Pacific Coast to Fergus Falls.

Dr. J. T. Rose has been honorably discharged and has returned to Lakefield.

Dr. Charles H. Payette of West Duluth was married to Miss Mary Pepin of Billings, Mont.

Dr. A. F. Hunte, after serving for two years has resumed his practice at Fairmont.

Dr. G. J. Thomas has returned from overseas and will resume his practice in Minne apolis.

Dr. W. B. Heagerty of Mazeppa was married on June 19th to Miss Elise Schwirtz of Wabasha.

Dr. W. O. Tessier who has been in Red Lake Falls for more than a year will relocate at Oklee.

Dr. Harold Pederson of Minneapolis has removed his office to Suite 427-431 La Salle Building.

Dr. C. A. Traeger, who has been in the service for more than a year, has returned to Faribault.

Dr. J. F. Lynn has returned from overseas and will resume his practice in September in Waseca.

Dr. U. V. Portman has returned to Jackson after having served in the Medical Corps of the Army.

Dr. E. W. Rimer has received his honorable discharge and has resumed his practice at Breckenridge.

Dr. H. B. Rice has resigned as assistant superintendent of the City and County Hospital of St. Paul. He will take a post graduate in medicine in New York. He is succeeded by Dr. C. H. Pelton.

Major Bronson Crothers of St. Paul landed on June 27th and has been mustered out of service. He expects to resume his practice in the near future.

Dr. C. E. McGeary, recently with the Minneapolis City Hospital, has opened offices in the Belanger Building, Minneapolis.

Dr. W. F. Maertz, after a year and a half service in the army in the states and France, has again opened up his offices at New Prague, Minnesota.

Dr. H. W. Hill, executive secretary of the Minnesota Public Health Association, was elected president of the National Anti-Tuberculosis Association.

Col. Chas. L. Greene has received his discharge from the army and has resumed the practice of internal medicine at his office in the Lowry Building, St. Paul.

Dr. William Gamble has received his honorable discharge from the Navy, where he held the rank of senior lieutenant, and has associated with Dr. J. E. Crewe of Rochester.

Announcement has been received of the marriage on June 27th at Enfield, England, of Miss Daisy Thomson to Capt. John Steele Abbott of St. Paul. Dr. and Mrs. Abbott are expected in St. Paul in the near future.

Dr. P. M. Hall, formerly of Minneapolis, and now superintendent of the Walker State Tuberculosis Sanatorium, is taking a course in the School of Tuberculosis in Saranac, N. Y. He expects to return to Walker in August.

Dr. E. J. Huenekins of Minneapolis has just returned from a trip to the Pacific Coast. He attended the meeting of the Oregon State Medical Association in Portland on June 26th to 28th and read papers on "Practical Everyday Pediatrics and "The Care of the New-Born with Special Reference to the Prematures." He also addressed the evening meeting. A North Pacific Pediatric Society was created.

# NEW AND NON-OFFICIAL REMEDIES

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-Official Remedies:

**Robert McNeil:**
**Chlorcosane (McNeil).**
**Dichloramine-T (McNeil).**
**Lederle Antitoxin Laboratories:**
**Pituitary Extract-Lederle.**
**Ampules Pituitary Extract-Lederle, 0.5 Cc., 1 Cc.**
**Tuberculin "O. T." (Old Tuberculin).**
**Tuberculin "B. E." (Bacillary Emulsion).**
**Tuberculin "B. F." (Bouillon Filtrate).**
**Antidysenteric Serum (Polyvalent).**
**Streptococcus Vaccine (Polyvalent).**

## PROPAGANDA FOR REFORM

**Collosol Preparations.**—The Council on Pharmacy and Chemistry reports that Collosol Argentum, Collosol Arsenicum, Collosol Cocain, Collosol Cuprum, Collosol Ferrum, Collosol Hydrargyrum, Collosol Iodin, Collosol Manganese, Collosol Quinin and Collosol Sulphur are inadmissible to New and Non-Official Remedies because their composition is uncertain. In the few cases in which the therapeutic claims for these preparations were examined, the claims were found so improbable and exaggerated as to have necessitated the rejection of these products on this account. The term "Collosol" appears to be a group designation for what are claimed to be permanent colloidal solutions, marketed by the Anglo-French Drug Company, Ltd., London and New York. Were this claim correct, the Collosols should contain their active constituent in the form of microscopic or ultramicroscopic suspensions. The Council was, however, obliged to question the colloidal character of the preparations. A number of samples submitted to the Council had separated and Collosol Hydrargyrum was not a colloidal solution at all; also the ampules of Collosol Ferrum contained a flocculent precipitate. If either of these two preparations were injected intravenously as directed, death might result (Jour. A. M. A., June 7, 1919, p 1694).

**Pulvoids Calcylates Compound.**—The Council on Pharmacy and Chemistry publishes a report on Pulvoids Calcylates Compound (The Drug Products Co., Inc.), not so much because the preparation is of any great importance, but as a protest against the large number of similar irrational complex mixtures which are still offered to physicians. These "Pulvoids" are tablets, each of which is said to contain "Calcium and Strontium Disalicylate 5 grs., Resin Guaiac ½ gr., Digitalis ¼ gr., Colchium (colchicum) Seed ¼ gr., Squill ¼ gr., Cascarin 1-16 gr. with aromatics." They were advertised among "Approved Remedies for La Grippe and 'Flu' ". . . The Council admitts that salicylates have a field in influenza in that they often afford relief from pain. There is no reason to suppose that a mixture of strontium and calcium salicylate—the calcium and strontium disalicylate of the "Pulvoids" is probably a mixture of stronium and calcium salicylates—has any greater salicylic effect than an equal amount of sodium salicylate. On the other hand it is worse than useless to give colchium, squill and digitalis for the relief of such pain. No educated physician will give resin of guaiac and "cascarin" in fixed proportions with salicylates (Jour. A. M. A, June 14, 1919, p. 1784—

**Antithyroid Preparations (Antithyroidin-Moebius Thyreoidectin) Omitted from N. N. R.**—New and Nonofficial Remedies, 1918, contained a discussion of "antithyroid" preparations and described two of these: Antithyroidin-Moebius (E. Merck, Darmstadt, Germany) and Thyreoidectin (Parke, Davis and Company, Detroit, Mich.). The "antithyroid" preparations have not realized the expectations of their promoters, and are viewed with skepticism by practically all critical clinicians. Consequently, notwithstanding the cautiously worded claims made for Thyreoidectin, the Council voted to omit this preparation from New and Nonofficial Remedies (Antithyroidin-Moebius had already been omitted because it was off the market) (Reports Council Pharm. and Chem., 1918, p, 50).

**Borcherdt's Malt Extract With Alternatives.**—Each fluid-ounce of this was claimed to contain iodin 1-30 grain, calcium iodid 1 grain, potassium iodid 2 grains, calcium chlorid 8 grains. The preparation was declared inadmissible to New and Nonofficial Remedies: (1) because it did not contain free iodin as claimed; (2) because it was needlessly complex, and therefore irrational; (3) because the name of the preparation is not descriptive of its composition, but therepeutically suggestive (Reports Council on Pharm. and Chem., 1918, p. 51).

**Cephaelin and Syrup Cephaelin-Lilly Omitted from N. N. R. and Syrup Emetic-Lilly not Accepted.**—New and Nonofficial Remedies, 1918, described cephaelin (an alkaloid cotained from ipecacuanha root) and listed Syrup Cephaelin-Lilly as a pharmaceutical preparation of it. In 1918 Lilly and Company advised that the name of its preparation had been changed to Syrup Emetic. The Council directed the ommission of Syrup Cephaelin-Lilly and voted not to admit Syrup Emetic because the name does not indicate the potent ingredient of the simple pharmaceutical preparation and in that it is therapeutically suggestive. Emetics are powerful agents, and preparations containing them should not be sold under non-informing names. As the cephaelin syrup was the only preparation of cephaelin admitted to New and Non-official Remedies and as the alkaloid appears to have no important therapeutic field, the Council also omitted cephaelin from the book (Reports Council Pharm. and Chem., 1918, p. 52).

**Colalin Omitted From N. N. R.**—Colalin is a bile salt preparation claimed to consist essentially of hyoglycocholic and hyotaurocholic acids. It is manufactured by Rufus Crowell and Company, Somerville, Mass., and marketed by Schieffelin and Company. An examination of the current advertising for Colalin revealed that claims were made for it which were not in harmony with the known actions of bile preparations. As these claims were not substantiated by evidence nor revised in accordance with a request sent to the manufacturer and the agent, the Council directed the omission of Colalin from New and Nonofficial Remedies (Reports Council on Pharm. and Chem., 1918, p. 52).

**Diphtheria Bacillus Vaccine Omitted From N. N. R.**—The Council directed the omission of diphtheria bacillus vaccine from New and Non-official Remedies because the manufacturer of the only preparation of this vaccine advised that its sale had been discontinued (Reports Council Pharm. and Chem., 1918, p. 54).

**Empyroform Omitted From N. N. R.**—Empyroform is a condensation product of birch tar and formaldehyde. The Council voted to omit the preparation from New and Nonofficial Remedies because its usefulness is doubtful and because the agents were not in a position to submit further evidence for its value (Reports Council Pharm. and Chem., 1918, p. 55).

**Foral.**—Foral is a depilatory preparation sold with special claims for its use for the removal of hair prior to surgical operation or the dressing of wounds. The Council declared Foral inadmissable to New and Nonofficial Remedies: because it is an unessential and irrational modification of the well known depilatory composed of barium sulphid 2 drachms, zinc oxid 3 drachms and starch 3 drachms, and because it is marketed under a noninforming name and with unwarranted claims (Reports Council Pharm. and Chem., 1918, p. 55).

**Glycerosal.**—This was said to be a mixture of glyceryl salicylates prepared by heating methyl salicylate with glycerol. The Council declared Glycerosal inadmissible to New and Non official Remedies because unwarranted claims were made for it and because there was no evidence to indicate that it had any advantage over other salicyl preparations, such as methyl salicylate, spirosal, etc. (Reports Council Pharm. and Chem., 1918, p. 57).

**Chionacea.**—According to the catalog of Nelson, Baker and Co., the composition of Chionacea is: Each fluidounce contains: Tinct. chinonanthus 180 min., Tinct. echinacea 90 min., Euonymus 12 grs., Lappa 16 grs., Traxacum 16 grs., Syrup senna 120 min., Sol. sodium phosphate conc. 24 min. The merits of the preparation may be estimated by the following: According to the Epitome of the U. S. P. and N. F., chionanthus, or fringed tree bark, is an obsolete drug formerly used by eclectics and homeopaths in hepatic disorders and syphilis but has no definite indications for its use. Echinacea was examined by the Council on Pharmacy and Chemistry in 1909. Of this drug, the Epitome states "The claims for this drug as an 'alternative' and antisyphilitic are extravagant and unwarranted. There are no established indications for its use." (Jour. A. M. A., June 14, 1919, p. 1787.)

**More Misbranded Nostrums.**—The Following have been found misbranded under the Federal Food and Drugs Act: Samaritan Nervine, containing nearly 19 per cent. potassium bromid.; Phenol Sodique, reported on by the Council on Pharmacy and Chemistry in 1907; Nuxcara, containing alcohol, cascara strychnin and berberin; Dr. Upham's Valuable Electury, a tablet composed essentially of resins, sugar, sulphur, gum and vegetable extractives. (Jour. A. M. A. June 21, 1919, p. 1858).

---

# PROGRESS IN MEDICINE AND SURGERY

**THE TREATMENT OF TRACHOMA AND CHRONIC CONJUNCTIVITIS WITH NEGATIVE PRESSURE:** B. M. Howley, (American Journal of Ophthalmology, vol. 2, No. 3, March, 1919) gives a written account of a method that may be employed in the treatment of trachoma which he claims is far less painful than rolling the lids or grattage and apparently as efficacious—negative pressure.

He holds that treatment with blue stone is the most barbaric that could be devised. Yet the application of copper sulphate stick in trachomatous conditions has withstood the test of time and, in the opinion of the reviewer, is not such brutal treatment if used with the proper technique.

Negative pressure is applied to the conjunctiva as follows: "The conjunctiva of the upper and lower lids, as well as the culdesac, is cleansed with a solution of boric acid or bichlorid of mercury 1-10,000." It would appear that this procedure is unnecessary if the following manipulations are effective: "After everting the upper lid, I place the application on the lid and with a sweeping motion run the applicator over the conjunctival surface from the inner to the outer canthus or vice versa. Many sweeping applications can be made to the lid in this way until the tube shows secretions with some blood, if the surface is irregular or granular, and you will be amazed at the amount of secretion that comes from the lids."

If the trachoma is slow to yield he supplements suction by scarification. The author has treated about 25 cases in this way. The mild cases yield to negative pressure alone, but if protracted moderate scarification with suction yield a quicker result. "Chronic conjunctivitis which resists treatment by ordinary methods will speedily yield to negative pressure with local applications."

P. D. Berrisford.

**THE RELATION OF PAIN IN GASTRIC AND DUODENAL ULCER TO MUSCULAR ACTIVITY OF THE STOMACH:** John Homans, (Am. Jour. Med. Sc., Jan., 1919) admits that his experiences with gastric and duodenal ulcer controverts the newly accepted dictum of more recent gastric physiology namely that pains in these cases are similar to so-called "hunger pains" and are produced by muscular contractions of the stomach registered nervously through the vagus.

While acknowledging that the work along this line by such men as Ginsburg, Tuneponski, Hamburger and Carlson is very convincing and their graphic tracings all that could be desired, he still feels that clinically many cases do not show any accessions of pain but the pain is continuous and no rythmicity can be read into the histories.

To prove his contentions, he reports three cases very carefully studied clinically and by the X-Ray which were checked up at operation:

In Case I there was a diminution of stomach contraction with the onset of pain;

In Case II the tracings showed vigorous muscular contractions but no pain;

In Case III showed the usual "hunger contractions" before pain began but after pain began the contractions ceased.

He feels convinced, therefore, that even in the presence of an active ulcer far removed from the pylorus, powerful muscular contractions of the fundus may cause no pain, and pain may occur independently of any muscular activity of the fundus.

CHAS. N. HENSEL.

---

**TREATMENT OF PURULENT ARTHRITIS BY WIDE ARTHROTOMY FOLLOWED BY IMMEDIATE ACTIVE MOBILIZATION:** Dr. C. Willems, Ghent, Belgium (Surg. Gyn. and Ob., vol. xxvii, No. 6), states that no therapeutic law has been more firmly established than that which has made immobilization obligatory for every joint injury, from the mild to the most severe. Nevertheless we all know its consequences; muscular atrophy which is rapid for certain muscles such as the femoral quadriceps, and stiffness of the joint. These conditions do not always yield completely to varied and very long physiotherapeutic treatment. In recent years there has been a mild reaction against systematic and prolonged immobilization. Willems commenced with evacuatory punctures to drain traumatic effusions of the knee, hemarthroses, and hydrarthroses, and by making the patient walk immediately. He found that they could not only do this without any difficulty but their lesion cured in a few days without leaving any trace.

The writer used this method very extensively in war wounds and with marked success. It was used in the simplest and most severe conditions. In simple lesions immediate active mobilization obviates atrophy and ankylosis. In purulent arthritis it seeks on the contrary to drain the articulations. In the first case the joint must be completely closed; in the second it must be left widely open. The mobilization must be active, that is to say, made by the patient himself by muscular contractions. Extension, flexion and rotation should be attained. Mobilization must be started as soon as the patient wakes up from the anaesthetic. Active mobilization is not painful in the true sense of the term, except when it displaces large bone fragments and in such cases it is contra-indicated. Willems claims that he accomplishes more than drainage. He obtains preservation of the articular mobility. This is due to the fact that the perfect drainage limits infection to the synovia alone and prevents its propagation to the cartilage and bone.

Contra indications,—when the arthritis is accompanied by an intra-articular fracture in which there is fear of displacing the fragments, and primary destruction of the ligaments and the articular capsule.

Many good illustrations accompany the article.

E. M. JONES.

---

**ANGIOMA OF THE LARYNX:** Richmond McKinney, M. D. (Journal of Laryngology, Rhinology and Otology, vol. xxxiv, No. 2, Feb, 1919), reports a case of this unusual rarity, a short resume of the case history will be of interest. A young man thirty-five years of age stated he had been hoarse for over one year. At times the condition improved. There was no pain but he suffered voice tire and exhaustion. Four years before he had been infected with lues, secondary symptoms were manifested during later months continuing for about one year, he had some paresis of left arm and hand. Insomnia and symptoms referable to the nervous system were present. Wasserman was positive. He was given thirty-five doses of salvarsan also intra-spinal injections of mercury. Hoarseness continued. On examining the larynx a subglottic tumor the size of a large pea, bluish red in color and with a raspberry-like surface was seen attached anteriorly beneath the right cord by a pedicle. With respiration the tumor would flop up into the glottis. The tumor was removed by indirect method under local anaesthesia and the pathologist reported the growth to be an angeioma. After removal of the growth the voice became normal and on repeated subsequent examination there was no evidence of recurrence.

With reference to the condition it might be stated that from literature reports it is of great rarity but forty-three cases are recorded.

GEORGE C. DITTMAN.

---

**THE NATIONAL MEDICAL MUSEUM:** Chas. H. Mayo M. D. (Abstract of paper presented at A. M. A. session June 1919) declares the medical profession may be justly proud of the record made by organized medicine during the war. In this war there were two deaths from injury and its results to one of disease and yet the world lauded the strategy developed by commanding officers while the real strategy was the control of disease

by the medical corps. A wonderful medical organization was created by former Surgeon General Gorgas. In France the practical application ofthe active work of the medical department was carried on under the efficient direction of Surgeon General Ireland.

The Government in the past has been at no expense in the training of its medical officers. In organizing the American medical profession for service in the war no account was taken of the fact that the men in the Medical Reserve Corps had had an average training of at least twenty years, and that their university course and medical course had cost not less than $5,000 per individual. Rank according to responsibility was withheld in most instances until the war was nearly over. The necessity of higher rank is essential only as it represents authority. The protection against disease and the care of the health of the men in service during the training for war and during the war has stimulated the demand for nation wide safeguarding of the health of the people.

Undoubtedly great good will come through educational publicity by the development of the National Medical Museum in Washington which now houses the splendid medical library of the Surgeon General's Office. A series of like departments are visualized; one will be devoted to the various diseases, contagious, preventable and controllable, from acute and chronic infections, and those diseases of both man and animal, also the insect carriers of disease, one to the missiles of the present war and the character of wounds produced by them, etc. The dentists will have a department to demonstrate the dangers of focal infections. All this will mark an epoch in the teaching of preventive medicine and of surgery. It is Surgeon General Ireland's desire to co-ordinate hospital work at the Walter Reed Hospital with medical instruction for army officers and with the work in the laboratories of the National Medical Museum.

England is establishing a Ministry of Health with supervision of all the educational problems relating to health, sanitation, and preventive medicine. Medicine has been tried and proved to a large degree that will enable it to stand comparison with any other effectual work of our Government. Why not, therefore, establish a Cabinet Officer of Health and unite, or at least harmonize with efficiency of management, all of the diverse medical activities now distributed among many cabinet departments and sub-departments?

---

**THE OPERABILITY OF CANCER OF THE STOMACH AS DETERMINED BY THE X-RAY:** R. D. Carmen M. D. (A. M. A. meeting, June, 1919) states that X-ray examination seems the most certain clinical means of gaining some pre-operative information concerning lesions of the stomach. The X-ray evidence of the size, shape, and position of a lesion and the Roentgen signs of gastric pathology may be the first definite indication of gastric cancer and when the tumor is not palpable the only knowledge significant in determining before incision is made the chances for the tumor's removal.

The operability of cancer of the stomach, interpreted from the X-ray findings, place it in one of three groups, the operable, the border line, and the inoperable. The location of a tumor as shown by the X-ray, automatically defines the possibility of resection of the stomach, in-so-far as the stomach is concerned, depending on the Roentgen division of the stomach in which the tumor is found, as the pars pylorica, pars media, and pars cardiaca are designated as the operable, questionable, and inoperable zones, respectively.

Tumors in the lower third of the stomach, although they are always very suspicious of malignancy, as approximately 70 per cent of all cancers of the stomach occur in the pyloric end. are the most favorable for removal. Malignancy may often be recognized in the character and size of the filling defect. but it is of no importance in limiting operability which in tumors of this first group, depends on a condition which the X-ray is unable to detect except in the rarest cases, and which is not often discovered by other clinical means, metastasis. No matter what the location or size of a gastric cancer, if it has perforated or if the disease has spread beyond the stomach wall by the lymphatics, operation is useless.

The tumors of the second group are classed as border-line cases because they extend so far up onto the stomach wall that resection becomes questionable, especially when allowance is made for the possibility of a scirrhous cancer which may invade the stomach wall more extensively than shown by the filling defect which it produces.

The lesions of the cardiac end of the stomach are definitely inoperable, whether metastasis has or has not taken place. The X-ray examination prevents many useless operations by detecting a growth in the upper third of the stomach; it is of less final value in detecting a growth of the median portion of the stomach as resection depends as far as the stomach is concerned on the skill of the surgeon plus the possibility of metastasis, while resection of the stomach when the growth is confined to the pyloric end or to the lower half, is impossible to the surgeon only because of metastasis. As the likelihood of metastasis seems to increase as does the extent of the tumor. with its age, the earlier a lesion of the stomach is discovered. the greater is the patient's chance for cure. As early cancer of the stomach often causes no more than slight gastric discomfort it is essential in combatting the rising mortality rate of cancer that all persons with any gastric complaint be given early and thorough medical examinations, including an X-ray examination. Propaganda which will bring to the public as well as to the medical profession the necessity of such early examinations is the most hopeful means of raising the operability of cancer of the stomach.

**A REPORT ON THE EFFECT OF HIGH CARBO-HYDRATE FEEDING ON THE NAUSEA AND VOMITING OF PREGNANCY:** J. W. Duncan and V. Harding, (Canadian Medical Association Journal, December, 1918) approach the general subject of toxemia from a new angle. They study the milder forms, known as "morning sickness," hoping thereby to gain some points which may be of value in the study of the pernicious type. They feel that there is sufficient clinical evidence on hand to warrant the assumption that there is an underlying connection between them.

HISTORICAL REVIEW.—Three types, reflex, neurotic and toxic.

The first or reflex, is rare and uncertain and includes the incarcerated uterus, also the irritations arising from a long cervix, rigid as and new growths.

The neurotic type was supposedly distinguishable from the toxic by the ammonia coefficient but whether this should be high or low does not seem to be settled. The above authors include the neurotic with the toxic feeling that the neurotic element is due to the effect of the toxin on the nervous system.

That the toxin of the toxic type is of placental or fetal origin is a mooted question. The ductless glands enter into the discussion and results have been obtained from the thyroid, placenta, corpus luteum and adrenalin extracts, but failures also.

That intestinal putrefactive products are a factor has been supported by one Dirmoser but there are marked cases on record where this factor did not seem to be operative.

The liver has been blamed. In the cases of this trouble that came to autopsy this organ was found to be the seat of fatty degeneration. Stone found crystals of leucin and tyrosin in the urine and explained it as being due to "sub-oxidation" on account of the liver being unable to properly metabolize the proteids. Others held similar views but Van Slyke and Losee in 1917 did find that eclampsia was distinguished by a low urea nitrogen and that pernicious vomiting was distinguished by a high ammonia coefficient.

Acidosis has been advanced as a cause but Van Slyke and Losee have shown that a depletion of the alkaline reserve takes place only to a very slight degree. There is even in normal pregnancy a slight degree of acidosis and it may be increased in pernicious vomiting but in neither case does it account for the symptoms.

"No satisfactory solution of the problem of nausea and vomiting of the mild or the severe type has been arrived at." Our treatment is indefinite and empirical, symptomatic rather than specific.

GENERAL OUTLINE OF TREATMENT.—While all theories have failed it may be true that there is back of all this toxemia a single causal factor after all.

In view of the fact that the mild forms of this trouble come on in the morning, after a period of starvation, to disappear during the day, and in view of the fact that treatment directed to diet and hygiene, altho rather indefinite, has given results, the authors are of the opinion that there must be present a metabolic factor, and the one most easily disturbed is the carbo hydrate.

Imrie has shown that the growing fetus is hungry or greedy for unsaturated fats. Mottram has shown that in pregnancy of nervous and starved animals there takes place a large deposit of fat in the liver, brought to it from the fat depots of the body. A simple hunger of a few hours led to the same thing.

These factors, pregnancy and a short period of starvation, have been blamed for this condition and the metabolic factor is a temporary lack of glycogen in the liver which leads to a fatty infiltration. This gives rise to acetone bodies in the urine which can be avoided by a liberal carbo-hydrate diet. A fresh over-night specimen must be examined. Lack of glycogen in the liver due to inadequate carbo hydrate diet was the cause.

The immediate source of the glycogen was lactose (cane sugar and glucose were too sweet).

The cure has been proven to be without a psychological influence. The patient was soon put on a liberal mixed carbo hydrate diet with a preponderance of fresh fruit and vegetables, cautioning against the excess of any one dish. Fats must be restricted.

SUMMARY.—

(1) A metabolic factor is the dominant one.

(2) Associated the fatty liver of the pernicious type with the milder forms.

(3) Assuming a temporary lack of carbo hydrates.

(4) Acetone bodies in the urine of all cases.

(5) Supply the deficiency with lactose and later a high carbo hydrate diet.

(6) Treated over 70 cases.

TREATMENT:—**Daily urine** examinations including acetone bodies. **Rest,** from duties, in bed or with isolation, depending on the severity of the case. **Elimination** defects must all be corrected. **Diet,** restricted proteid and fat foods, puch carbo hydrates in the form of lactose, 5% solution, 2 to 3 pints daily by mouth, rectum or subcutaneously, depending on the patient. In mild cases restrict proteids and fats for 48 hours, in severe cases no food at all for 48 hours. The only medication is the lactose as above, by mouth if possible, or by rectum Oz X q hr 4 by catheter, or subcutaneously, under breast, 200 CC.

Return to mouth administration as soon as possible. Lactose may be reduced to 15 Gms daily or tri-weekly if permissible.

Return to a mixed diet (proteid first and later on fats) may be done as soon as nausea and vomiting have ceased.

Examine the urine daily for acetone bodies and lactose. If the latter is found, reduce the intake.

ALBERT G. SHULZE, M. D.

---

**PROPHYLACTIC INOCULATION AGAINST RESPIRATORY INFECTIONS DURING THE PRESENT PANDEMIC OF INFLUENZA; PRELIMINARY REPORT:** (Abstracted from the Journal of the American Medical Association, January 4, 1919, p. 31.) By E. C. Rosenow, M.D., Rochester, Minnesota.

Numerous instances have been observed in which protection appeared to be afforded to inoculated members of families of which all the uninoculated became ill. Similar results were obtained when conditions among the inoculated and uninoculated

were comparable, such as in offices, factories and schools, where nearly all were inoculated, or where only a small percentage were inoculated. Illustrating results are as follows:

Of 1,000 persons employed by one company, 481, about one-half, received one inoculation; 224 received two inoculations, and 95 received three inoculations. From October 28th, the date of the first inoculation, to December 8th, 138 cases of influenza occurred, only 20 of which were among persons who had had one or more inoculations. Of these, 14 had had only one inoculation, and the remaining 6 had but two inoculations. There were 13 deaths, only 2 of which followed influenza among the inoculated, and in these two cases only one inoculation had been given.

The mortality from bronchopneumonia in pregnant women has been especially high during the present epidemic. The vaccinations in a fairly large number of such persons appear to have afforded some protection against this complication. The bacteria included in the vaccine belong to the general group in microorganisms associated commonly with chronic infections, such as arthritis, sinusitis and bronchitis; hence some effect should follow its injection. Striking instances of improvement in these conditions have been noted, but whether due to specific or nonspecific effects or whether the vaccine acts as an "exfoliative stimulus" according to Larson, liberating performed specific antibodies, remains to be determined.

From the results obtained thus far, it appears possible to afford a definite degree of protection by prophylactic inoculation to persons against the more serious respiratory infections during the present epidemic of influenza. The duration of immunity is not known, but indications are that it is relatively short.

The vaccine should contain freshly isolated strains of the more important bacteria in approximately the proportions as found in the sputum and lungs in the disease, and since the relative proportions of the bacteria at hand differ so markedly in widely separated communities, judging by the reports, the formula of the vaccine should be made to conform as nearly as practicable to the respective flora of the disease in the communities in which the vaccine is to be used.

A saline vaccine was used as an emergency measure. Owing to the large number of different bacteria that need to be included and the large doses necessary, a lipovaccine, judging by the recent work of Whitmore, ought to possess definite advantages, since reactions should be less severe, the formation of antibodies more marked, and the resulting immunity more enduring.

I am constantly being asked with regard to the use of the vaccine in treatment. Since the severer complications in influenza, such as pneumonia, do not usually begin until the fourth day or later, the vaccine, if given at the onset of the disease might reasonably be expected to afford some protection. The initial prophylactic dose daily for one, two or three days, provided no unfavorable symptoms occur, is recommended. The results obtained are considered preliminary, and final conclusions can not be drawn at this time. It is indicated that the vaccine used was at least harmless, that a certain degree of protection was afforded, and that prophylactic inoculation against the respiratory infections, so fatal during this epidemic, be studied on a large scale by many according to the principles herein laid down.

---

**THYROID THERAPY IN OPHTHALMIC PRACTICE:** Percy Dunn, (Brit. Jour. of Ophth., Vol. 111, No. 1, Jan. 1919) states "The dominant factor emphasizing this suggested treatment is the natural inference that without blood above suspicion in its freedom from toxic influences the eye can not maintain its resistance against pathological reaction; that a tissue of such delicacy and vascularity as that of the ciliary body should exhibit a disproportionate responsiveness to a toxic blood supply is under the circumstances natural. One of the functions of the thyroid is to exercise a protective antitoxic and immunising action defending the body not only against toxic products of its own metabolism but against invasion by disease producing microorganisms and injury by their products. As long as the protective influence is maintained pathological reaction is held in abeyance. As soon as that protection fails reactionary processes ensue. The iridocyclitis of pyorrhoeal origin is a symptom, not a disease sui generis and the determining cause of its incidence is failure of the thyroid to control the toxaemia of which the sepsis is the source.

The author also attributes keratitis punctata to a similiar cause, and while it is recognized that inflammatory conditions are due to toxaemic influences, failure of the thyroid to control the toxaemia is overlooked.

An ill functioning thyroid determines the virulence of a toxaemia and its effects. Where that control has failed it must follow that the micro-organism is enabled to exert the maximum of its powers and especially amid tissues defenceless from perverted nutrition. As evidence and for argument corneal ulcer is used. Here the toxin passes through Descements membrane into the anterior chamber, acts as an irritant, and exudation of polymorphonuclear cells is the result and the incidence of the hypopyon is the reflex of the virulence of the infection.

During the menopause thyroid function is deficient and many patients with anomalous eye symptoms come under the notice of the ophthalmic surgeon with conditions such as aching eyes, headache, fatigue in eyes after short period of reading and close work. Although general signs of hypo-thyroidism are not definite, refractive errors are not releaved by correction. The proof is furnished by the relief obtained from thyroid treatment.

Another sign of thyroid inadequacy is hemorrhage. There is the common form of sub-conjunctival hemorrhage occuring in middle aged women and attributed to other caused like retinal hemorrhages. A recurring subconjunctival hemorrhage pointing to hypothyroidism should be accepted as a warning sign of a condition de-

manding thyroid treatment in order to avert the contingency of the retina becoming the seat of the axtravasation.

In concluding the author states "The tendency more or less prevails to regard advocates of thyroid treatment as persons who take pot shots at disease with thyroid tablets and who when succeeding occasionally in scoring a bullseye persuade themselves that a thyroid target is the only one at which to aim."

It should be borne in mind that the literature of the subject has now assumed massive proportions and is soundly based upon physiological inquiry and research. That literature has shown that the thyroid is the out post of the defensive organic army of healthy nutrition. Finally if thyroid therapy fails to yield the miracles expected of it after due trial that is proof that the gland is in no need of assistance.

GEORGE C. DITTMAN.

# BOOK REVIEWS

**THE WHOLE TRUTH ABOUT ALCOHOL.** G. E. Flint. The Macmillan Co., New York, 1919. $4.00.

G. E. Flint in his book, "The Whole Truth About Alcohol," raises protest against the exaggerated statements, untruths, and half truths from which false inferences can be drawn, used by a large number of prohibitionists in their ardent fight for prohibition. He admits that alcohol in excess is a grave evil and believes that as such it should be fought, but that alcohol in small quantities is not only harmless but actually may be beneficial to mankind.

It is his opinion that at the present time, because of our strenuous daily life, man needs some sedative; reasoning the least harmful sedatives to be alcohol and tobacco he concludes that these should not be denied, in fact that, in the best interests of the health of the individual, they should be allowed because through allaying anxiety and worry they ward off disease, one great cause of ill health being worry.

National temperance, rather than national prohibition the author suggests as a solution to the liquor problem. He is in favor of laws prohibiting the sale of liquors containing a high percentage of alcohol (they being habit-forming) and suggests taxing liquors in direct proportion to their alcoholic content thus stimulating the use of mild drinks.

Prohibition he does not consider an effective remedy. He quotes statistics showing that, denied alcohol as a sedative, men seek other and more harmful sedatives, as already suggested, or through private distillation, or illicit trade in distilled liquors, evade the law, creating a contempt for law as well as indulging in liquor of high alcoholic content, the mild malt liquors being too bulky to handle and too difficult to manufacture secretly.

With existing laws drastically applied Mr. Flint thinks the need for prohibition as set forth by prohibitionists would vanish. American people already show a strong drift toward temperance shifting from strong to milder drinks in their own interest, as, due to the complexity of American life, the man who drinks to excess is necessarily eliminated. The man who drinks excessively is abnormal—deficient; alcohol does not produce his deficiency but because of his deficiency he abuses alcohol, Mr. Flint reasons. Prohibition for all because of a few defectives hardly seems fair to Mr. Flint. Effective means of hastening national temperance could be found in providing better living conditions and shorter hours of work as it has been shown that men drink more when exhausted; in rigidly enforcing existing laws; in providing "beer gardens" in which whole families can congregate to take the place of the saloon and in developing habits of moderation in all things.

The deterioration of the race for which alcohol is so often blamed Mr. Flint asserts is due rather to the lack of proper exercise than to the use of alcohol.

While one can not agree with all of Mr. Flint's statements one can not help but be interested in his sincerity, and his freedom of expression, nor be amused at his picturesque use of the English language.

I am sorry that he did not quote more frequently some of our most eminent physiological chemists whose evidence is difficult to meet rather than refute the statements of rabid prohibitionists of whose methods no sincere reformer approves and by whose statements none but the ignorant are affected.

But enough of criticism, the book has a broadening effect in presenting "the other side" sincerely and logically and should have an interesting effect in aiding in the neutralization of fanaticism on the liquor question.

ALMA SCHMIDT.

**THE BLIND.** Harry Best, Ph. D. The MacMillan Co., New York. $4.00.

The author in his inquiry in respect to the blind in the United States has left nothing undone to make his treatise most comprehensive from every point of treatment. Of particular interest is the chapter devoted to the definition of a blind person, and the general attitude of the law towards the blind discovered in constitutional provisions, legislative enactments and judicial decisions.

That the blind may occupy a useful position in the economical world may be seen from the following facts. Four-fifths of these unfortunates are gainfully employed in agriculture and kindred occupations, manufacturing and mechanical industries, trade and professional service. Practically one-fourth are reported in agriculture and like occupations, a little less than nearly one-fourth in manufacturing and mechanical industries nearly

one-fifth in trade, in domestic and personal service a little less than one-twelfth.

In the census of 1910 there were reported 29,242 cases of blindness. Unfortunately only a little more than one-half are reported as arising from a definite cause so that such statistics are in this respect only of approximate value. Nevertheless cataract holds a most important position as a numerical factor in the causation of blindness (11.2 per cent), optic atrophy from various causes is next (6.2 per cent). Following with smaller proportions are glaucoma (3.4 per cent), ophthalmia neonatorum (2.0 per cent), trachoma (1.5 per cent) and corneal ulcer (0.8 per cent), injuries of the eye of a traumatic nature tops the list with (13.5 per cent).

Considerable space is devoted to educational advantages obtainable by the blind. Compensation for loss of vision is treated at length under the following chapters: "Pensions for the Blind," "Indemnities Paid for the Loss of Sight: Through Suits at Law," "Indemnities Paid for the Loss of Sight: Through Insurance Policies," "Indemnities Paid for the Loss of Sight: Through Public Measures," "Indemnities Paid for the Loss of Sight: Through Workingmen's Compensation Laws" and Provisions by the National Government for Persons Blinded in War.

PAUL D. BERRISFORD.

---

**SEX AND SEX WORSHIP. (PHALLIC WORSHIP). (O. A. Wall, M. D. Ph. G., Ph. M. Published by C. V. Mosby Co., St. Louis. Price $7.50)**

The purpose of Dr. Wall's book is probably best expressed in extracts from the book itself:

"There is nothing in the human economy of which men and women should know more, and of which they know less, than of sexual relationship. Ignorance is not bliss. It is the source of unhappiness, suffering, crime, vice and sorrow without end.

The light of knowledge illuminating this subject would elevate the present sensual and impure conceptions of the relationship of the sexes into an appreciation of the real God-like holiness and purity of married companionship and it would go far toward checking immorality and prostitution."

To accomplish his purpose, Dr. Wall gives a discussion of the evolution of man and of the influence of sex on man's development physically, intellectually, ethically and spiritually. He emphasizes throughout the book the essential purity of sex, of sexual emotions and desires. Dr. Wall bewails Puritanical tendencies which denounce all nude in art and which develop a false sense of modesty by suggesting evil in things that are in themselves innocent. "Nudity" he asserts "does away with prurient desires;" it is the straining to conceal the beautiful nude which injures. "Frigidly chaste wives are the main cause of the prostitution that is inseparable from a monogamic life and civilization and civilized clothing."

It was natural for primitive man to worship sex, as Nature held for him no greater mystery than the mystery of birth and the origin of life. Among almost all primitive peoples the first religion took the form of sex worship, often in the form of ancestor worship. Dr. Wall traces the development of higher forms of religion showing the influence of sex worship upon them and showing how the conception of God became more nearly ideal as civilization advanced. In all forms of religion we find the expression of gratitude toward the Creator and God is still spoken of as, "The Father."

One of the most interesting phases of the book is a discussion of the relation of sex to the status of woman. Due to man's superior physical strength, woman was originally considered the inferior being. While the sex organs of woman were worshiped to some extent, the man was usually considered the "creator;"—the woman's part in reproduction was not understood. Anaxagoras, in 1732 B. C., taught that the embryo was formed entirely from the seed of the male and that the mother merely furnished the soil in which it grew and developed. This was also the attitude of many religions was taught even in the Old Testament and held from about 1732 B. C. to the beginning of the 19th century, a period of 4 000 years.

The almost universal subjection of woman while unfair to the woman was a great factor in the development of civilization. It produced the gentler traits in the woman which, transmitted by heredity, raised the standards of civilization—it subdued the passions of the female producing that sexual apathy in woman which is the chief guardian of morality; it developed dread of violence and opened the way for the development of the gentler arts and religion. Due to the development of science woman is now regarded as actually a higher manifestation of animal life than man. Her position has correspondingly changed. The realization of the equality of woman with man will make possible the development of love in its highest and purest sense and the ideal relationship of the sexes will develop.

Dr. Wall states the facts of sex and of the relationship of the sexes in a clear concise and scientific manner. Honesty in facing the truth and knowing the truth is the silent plea throughout Dr. Wall's book. Open-mindedness and willingness to lay aside ancient prejudices and superstitions are necessary if we wish to keep abreast with the times and pave the way for future development.

"No one can tell all the benefits that will accrue to mankind, but two conditions are clearly foreshadowed—the equality of man and woman and freedom of thought and conscience. To take our parts intelligently in the further development of mankind, men and women must 'DARE TO KNOW' ".